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OBSERVATIONS
ON
FEBRILE INFECTION,
OR
FEVER,

WHETHER
ARISING FROM MARSH MIASMATA, FROM HUMAN
EFFLUVIA, OR FROM OTHER CAUSES.

TOGETHER WITH
BRIEF REMARKS
ON OTHER
DANGEROUS DISEASES INCIDENT TO SEAMEN.

By ROBERT ROBERTSON, M.D. F.R.S. F.A.S.
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NULLIUS ADDICTUS JURARE IN VERBA MAGISTRI.

IN FOUR VOLUMES.
VOL. III.

LONDON:
PRINTED FOR T. CADELL AND W. DAVIES, STRAND,
BY R. WILKS, CHANCERY-LANE, FLEET-STREET.

1807.

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TO
THE MEDICAL OFFICERS
OF
HIS MAJESTY'S NAVY.

GENTLEMEN,

THIS volume, containing my Essay on Febrile Infection, which was known to many of you in the former incorrect edition, and now improved and enlarged, with several important additions, and a copious Index—I have taken the liberty to dedicate to you.

Conceiving the work will be particularly useful to the young inexperienced Medical Officers, who now, being encouraged,

DEDICATION.

couraged, daily enter into the service, I have no doubt you will recommend it to them, according to your several opinions of its utility.

After various attempts to advance your interest with honour and with benefit to the public service, since 1769, I have at last, thank God, the happiness to congratulate you on your general promotion in His Majesty's Navy. In the Appendix to this Volume, Gentlemen, is contained a relation of these different attempts which, at last, were instrumentally successful in promoting you to equal rank with the medical Officers of the Army—by representing your promotion as an object of great political concern; being well assured that no other argument would have had so much weight in your favour.

That

DEDICATION.

That you may at all times be as highly distinguished for promoting medical science, as you are eminently useful to the Empire, is the fervent wish of,

Gentlemen,

Your very sincere Friend,

And most obedient Servant,

R. ROBERTSON.

*Royal Hospital, Greenwich,
May 21, 1805.*



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ON
FEVER
OR
FEBRILE INFECTION,
&c. &c.

PART I.

THE VARIOUS DOCTRINES CONCERNING FEVER.

CHAPTER I.

General Remarks.

FEVER, if one may judge by the number and respectability of the authors who have written concerning it, from the earliest period to the present day*, appears to have been acknowledged one of the most important subjects connected with the science of medicine.—The attention of all the

* Dr. George Fordyce had not entirely finished his Fifth Dissertation on Fever, in 1802, when he died.

eminent teachers and professors of the science, has been so far devoted to it, as to form of it a very material part of each of their systems—besides thousands, I believe, of inferior writers who have written on the subject.—Yet notwithstanding the subject has been, in all ages, so universally allowed to be of such high importance; has been considered, by many, as a foundation upon which to build their systems and doctrines; and has been discussed with such apparent zeal—no disease, cancer excepted, seems to have been less understood, nor its management, until lately *, less happily improved than fever.

In the year 1769, when the author first went to the coast of Africa, fever was dreaded as much by every ship's company going on that service, as the yellow fever is now by those going to the West Indies. No author, from his own observation at that time †, had furnished the history of fever, as it

* Within these thirty-five years. Dr. Miller was the first practical writer in this country who administered and recommended bark, or the tonic treatment, *early* in fever, in Great Britain. See his Observations on the Prevailing Diseases of Great Britain, in 1770; although I knew nothing of his writings until 1779, which was five years after I had written the Observations contained in the first volume, and between two and three years after they were printed; and a considerable time after I had finished those contained in the first part of the second volume.

† To my own knowledge I am speaking.

appeared

appeared on that coast ; or had pointed out the successful method of managing the fever ; or of preventing it. But since the author's Observations in his Meteorological and Physical Journal were published, that service has been dreaded, I believe, as little as any other service whatever.

In 1775-6, when I was appointed to the Deal Castle, Fox, and Juno, no author had yet furnished, from his own observation, the history or description of ship fever ; nor pointed out any certain and successful mode of managing it. In the Observations of the author, published early in 1782, on Jail, Hospital, and Ship Fever, and republished in 1789 ; and in his Essay on Febrile Infection, published in 1790, he appears the first who, from his own observations, had ascertained that there was no specific difference between these fevers ; or between them and that fever which arises from marsh miasmata ; or in the method necessary for treating them successfully. The latter desideratum in particular was not set forth, nor even hinted at in the sixth edition of Dr. Lind's Dissertation on Fevers and Infection, first published in 1761 ; nor in Pringle's Observations on the Diseases of the Army, published in 1768. So far from considering fever one universal disease, we see these authors describe *inflammatory* fever, *remittent* fever, and *jail* or *hospital* fever, with their own different methods of treatment.

Inflammatory diseases, as yellow fever, by these eminent authors, were confounded with fever : and

symptoms of fever—as *bilious* fevers—depending on the situation and circumstances about the sick, were distinguished with appellations of fever, by them, as well as by inferior writers.

An energetic mode of tonic or stimulant therapeutics, in febrile infection *, I say, was not even hinted at by them in their works.

The reason of this subject being so little improved, I am of opinion has arisen, from the inordinate desire of medical teachers, and authors, to establish systems of their own; to divide fever into genera, and to subdivide these into numberless species †—instead of attending to the physiology of the disease; to its first effects on the system; or to the experience of successful practitioners in various climates, as to the method of treating it: to their preferring that practice which they have adapted to their own theory of the disease, instead of becoming observers themselves. It has also arisen partly from the disciples and advocates of those writers carrying with them, wherever they go, the same systems and doctrines they have been taught; looking for the source of epidemics in occult causes, whence they fabricate, in every situation, a new species of fever, which they denominate according to their fancy. Imagining it never before occurred to any other practitioner; and that they had been singularly fortunate in discovering the

* Or in fevers arising from infections.

† According to their several notions and ideas.

most appropriate mode of treatment * ; instead of attending to the disease, from its commencement to its termination ; instead of describing the symptoms as they occur, and the obvious effects of the medicines administered ; and instead of leaving it to readers to judge for themselves.

While, in the mean time, each prevailing system has in its turn yielded to the next in succession, like waves of the sea, “each impelling wave impels the wave before”—Plethora; cacochymy; viscosity and lentor; acrimonious state of the humours; acidity in the humours; alkaline state of the humours; putrescency of the humours; the inherent power of the blood to direct a morbid determination of its circulation—or *the humoral pathology*—curing by expectation—the vis conservatrix, and medicatrix naturæ; the doctrines of spasm; atony; preternatural affections of the nervous system; laxity, and rigidity of the simple solid; state of the solidum vivum; concoction, and critical evacuations; have each had, and still have their reign and favourites, followers and admirers; have each been, I say, approved by some, and rejected by others. But the most prevailing system at present in this empire is the Brunonian system, as it is styled—comprehended in *sthenia*, and *asthenia*—or the states of the system depending on too great or

* Numerous examples of this description are in the author's possession, which he will have occasion to quote in the sequel of these remarks probably.

too little excitement, or excitability. So that his * therapeutics are confined to remedies of two classes *more or less* exciting, or stimulating—adapted to the several diseases, depending on the degree of excitement and excitability, i. e. whether sthenic or asthenic. The doctrine, however, as far as it was applicable to fever, had been previously established and confirmed by the experience of others in the various quarters of the world before the *Elementa Medicinæ* were published, or heard of, I believe. Before that great northern luminary, the Brunonian system was displayed—which reduces diseases, I say, to these two genera, sthenia and asthenia.

It deserves repetition, that medical writers, generally speaking, have been more studious and ambitious to advance and establish a favourite system, than to add one new fact to the stock of observations—as if they thought it below their dignity to become observers†. So that many of them have thought it more honourable to refine and new-model the old systems of their favourite predecessors, than to advance their own observations, if they had any to advance.

* Dr. Miller published his *Observations on the Diseases of Great Britain*, in 1770: the first appearance of the author's *Observations*, in 1769, on the coast of Africa, was in 1771—in Dr. Lind's *Book on Hot Climates*; and Dr. Clark's *Observations on the Diseases incident to Seamen on long Voyages*, appeared in 1773.

* Or as if no further observations could be useful in practice.

The

The late very eminent teacher of the practice of physic in London, differs from this class very widely in his Dissertations on Fever. Steering clear of all systems, after explaining and setting before the reader whence he acquired his experience, and shewing that several of the symptoms of fever, commonly termed pythognomic, ought not to be so denominated; he describes fever as it has occurred to his observation. Agreeing with and confirming what the author had long before advanced respecting some of the most important phenomena of fever; the definition of *fever*; its being an *universal idiopathic, infectious disease*; and as to its being one of *the most fatal diseases*. But further, whoever will take the pains to compare the eminent reader's general observations on fever, with the author's observations on fever, from 1769 until 1790, respecting the important circumstances above mentioned, and several others, will find a perfect affinity between them in these important phenomena of fever:—which is a matter of the highest satisfaction to the author, whether the eminent reader ever condescended, or not, to read his observations. This coincidence is one of the strongest testimonies of the fidelity of the author's remarks that he could have possibly desired for the satisfaction of his readers. While the author, with exultation—is able; if he were disposed, to enjoy the aid of such a powerful supporter, he has no difficulty in refusing to recede one step from what he has advanced on the subject of treating fever successfully, although it differs so materially from what the eminent

B 4

reader

reader says on that head, as will appear in the sequel. This however he readily confesses, he is enabled to adhere to and maintain, not from superior learning, knowledge or sagacity, in all of which he is not ashamed to acknowledge the eminent reader very far excels him, but from his experience, which he acquired in the following manner.

The author's attention to fever was attracted at a very early period of his studies, to a case of the tertian type, in his own family, before 1759.—In this case the most remarkable symptom was despondency or depression of spirits. So extremely dejected was the patient, that the family were repeatedly assembled, during the paroxysms, at the bed-side, to receive her last admonition and blessing: this occurred in Couper Angus, about twelve miles to the north of Dundee, and upwards of ten miles to the eastward of Perth.

While I continued under the instruction of Dr. Charles Hunter, in Couper, and in Dundee, to which the Dr. afterwards removed while the author was still under his tuition and instruction; I had an opportunity to see his practice both in private and in the French prison, which was under his direction and care; but I have lost the notes of fever cases which occurred to me during that time. The other cases are briefly related in Vol. I. Part I.

In 1760, Findlay, on board the Grand Tully, at Greenland, or rather on the Frozen Sea, was the first fever patient I ever had under my care. He complained most of pain of his back and head. He
recovered

recovered with bark. This was a case of intermittent.

In 1761-2, on board the Prince of Orange in the English Channel, and at the reduction of Belleisle; the cases of fever were few. The ship's company, besides, being cleanly; well clothed; regular and temperate men, were not exposed to infection while I belonged to her as an assistant; but, notwithstanding these important advantages, the medical practice in that ship was the antiphlogistic, and very unsuccessful.

In 1763, on board the Terpsichore, at Lisbon, Newfoundland, and Ireland, Alexander Harper was a fever patient under my care, and the only case of fever that happened in twelve months: he recovered with bark.

In 1764-5, and 6, on board the Cornwall guardship at Plymouth; all our fever cases were sent to the Royal Hospital, where I had opportunities of seeing them, and the other fever patients in that hospital, as often as I pleased.

In 1776-7, 8, 9, on board the Adventure, Ferret, Preston, and Diligence; and in Port Royal Hospital at Jamaica; and at Pensacola, numerous cases of the remittent fever occurred.

In 1769, on board the Weasel, on the coast of Africa, many cases of remittent fever occurred, which are described in Vol. I. Part II.

In 1770, on board the *Æolus*, at Newfoundland, numerous cases of fever, from human effluvia or infection, are related *ibidem*, Chap. IV. &c.

In

In 1771, on board the *Arrogant*, in Portsmouth harbour: and also in Haslar hospital: various fever cases in London came under the author's observation the same year.

In 1772-3, 4, he managed on board the *Rainbow*, on the coast of Africa, and in the West Indies, many cases of remittent fever. Vol. II. Part III. IV. V.

In 1775-6, 7, and 8, on board the *Deal Castle*, in the Medway; various cases of fever arising partly from marsh, and partly from human effluvia, or infection also; on board the *Fox* and *Juno*, in Portsmouth harbour; and on board the latter at Quebec, and various other parts of America, many cases of fever, arising from human effluvia, or infection, occurred to him; besides having an opportunity to observe the modes of treatment of fever at the hospitals of these different places. Vol. II. Part I.

In 1779, 80, 1, 2, 3, on board the *Edgar*, *Romney*, and *Blenheim*, a great many cases of fever which proceeds from human effluvia, or infection, on Channel service, and at Gibraltar, Vol. II. Part II. III. IV., were under his care.

In 1783-4, 5, and parts of 1786-7, and 8, in part of Hampshire, a great many cases of fever, arising some from miasinata, or marsh effluvia, and some from human effluvia, or infection fell to his care.

In parts of 1786-7, and 8, on board the *Salisbury*, at Newfoundland, many cases of fever arising from human effluvia or infection also occurred to him.

In 1789-90, in part of Hampshire, numerous cases of fever, which either proceeds from miasmata, or human effluvia. From 1791 to September 1804, many cases of fever, which arises from human effluvia or infection out of the infirmary, as well as those enumerated in Vol. II. Part V. Chap. I.—XI. came under his observation.

These are the sources whence the author has derived his knowledge and experience of the subject of fever, for upwards of forty-five years. Which I thought right, for the information of the reader who may not be disposed to read the observations, to recapitulate in a brief manner. Such was the source of my intelligence and experience that forms the data upon which I have ventured to republish the following Essay on *Febrile Infection* or Fever; and to differ from such high authorities as I have done.

Before I proceed, however, I think it right to take some notice of an apparent defect in the observations in hot climates:—viz. No mention being made of the disease, vulgarly and erroneously denominated yellow fever—although, it appears, the author was on the coast of Africa, four voyages, in 1769, 1772-3, 4; part of 1766-7, 8, 9, and 1772, 1773, 4; in the West Indies; and in different parts of America in 1776-7, 8.

This I think the more incumbent on me, as many young practitioners, employed in hot climates, may not be in possession of the opinion of the few who have entirely differed from the calomel practitioners;
and

and were successful in the treatment of that fatal disease—while thousands were dying under the calomel practice.

The only reason why the author never made mention of the yellow fever, in his observations, was, that it never occurred to him in all the different times he was in hot climates. So that from his own knowledge and experience, he can say positively it is not a constant resident, but a casual endemic of hot climates; not always attacking visitors, though more frequently afflicting them than the natives, or people that have resided any number of years in hot climates. And providentially it is epidemic, but seldom even amongst those who go thither from northern climates. The author's experience is also supported by the testimony of other writers on the diseases of hot climates.

Dr. Monchy says, “ All real inflammatory diseases are seldom known in the West Indies.” And I mean to show in the sequel, that *yellow fever* is no fever, but a violent inflammatory diathesis, which would be more properly denominated, *the inflammatory epidemic of hot climates*, than by any appellation of fever.

Dr. Lind, in his books on the Diseases of Hot Climates, Part I. Chap. I. page 35, speaking of diseases in South Carolina, says, “ We find this “ disease * much more obstinate, acute and violent, “ especially in July and August. The fevers †

* Meaning the yellow fever.

† Here the Doctor falls into the vulgar error of denomination.

“ which attack strangers are very anomalous, not
 “ remitting or intermitting soon, but partaking
 “ much of the nature of those distempers which are
 “ so fatal to the newly-arrived Europeans in West
 “ Indian climates. The same may be said of
 “ Georgia, and East Florida, during these two
 “ months; but in West Florida, the diseases of
 “ strangers approach still nearer to those of our
 “ *West Indian Islands*.

“ At Pensacola, where the soil is sandy, and quite
 “ barren, the English have suffered much: some
 “ died of scurvy; but a far greater part of fevers †.
 “ The excessive heat of the weather has *sometimes*
 “ produced in this place a mortal sickness §, *similar*
 “ to that which, in the West Indies, goes under
 “ the name of the *yellow fever*.”

In the latter end of 1766, and in part of 1767-8,
 no such disease prevailed at Pensacola.

The Doctor again observes, in Chap. II. p. 58:

“ An inflammatory fever is seldom observed
 “ during the season of sickness, in this part of the
 “ world”—speaking of the coast of Africa.

Again, in Chap. IV. in stating the diseases most
 destructive to Europeans, he says,

“ In all those places fevers and fluxes are fatal
 “ to Europeans; but that disease, denominated the
 “ *yellow fever*, is more particularly destructive to
 “ them.”

† He discriminates between them here:

§ Again he falls into the vulgar opinion,

It is very remarkable the manner in which this accurate observer and compiler here expressed himself: "I am now of opinion," he says, "that the
 "remarkable dissolution of the blood, together with
 "the tendency to putrefaction in the whole body,
 "the black vomit, and the other symptoms which
 "characterise the yellow fever, are often accidental,
 "though fatal appearances in fevers of the West
 "Indies."

Query—Are the symptoms which the Doctor has mentioned here any other than consequences of the disease which has already destroyed the system; and that is about to terminate fatally? The other symptoms are in a note quoted from Dr. Bruce, at Barbadoes, physician, page 263.

The yellow fever did not occur to Mr. Reide, surgeon to the first battalion of the first regiment of foot, employed in the West Indies upwards of three years.

Dr. Hunter, physician to the army at Jamaica, during the American war, makes no mention of the yellow fever in his observations on the diseases of the army in Jamaica, which he would hardly have omitted to have noticed had it occurred to him.

Dr. Winterbottom, in his directions for settlers in hot climates, after having resided at Sierra Leone a considerable time, says, page 55, "That dreadful
 "scourge of Europeans, the *yellow fever*, appears to
 "be almost confined to the West India Islands;
 "and mostly affects persons just arrived from Europe, or from the Northern parts of America."

It is, therefore, obvious to the reader, that the disease vulgarly called yellow fever, is not a constant resident in the West Indies*, though an endemial of hot climates; and but seldom epidemic; to which strangers coming from cold climates, especially with high health, are particularly liable, whether it be then epidemic or not, unless they avoid all excess, and also the heat of the sun; sitting or sleeping in draughts of air, by day or by night; and night dews.

The athletic and healthy subjects lately arrived from Northern climates, being the class particularly liable to be afflicted with yellow fever, and its being marked by all the features of *sthenia*, denote the nosological order to which it belongs; and fully refute the denomination of fever, vulgarly applied to it.

As well, and with equal propriety, might we in this country denominate the diseases of the order of *phlegmasiæ* with the appellation of fever, as class under that denomination, the epidemic of the West Indies, vulgarly and erroneously, I think, styled *yellow fever*, which participates in its symptoms, of all the diseases peculiar to *phlegmasiæ*: and although the violence of these symptoms, and the numerous parts affected, renders the disease extremely complex—yet the symptoms and parts affected, concur in pointing the disease clearly out

* Which sufficiently accounts for the author's not having made any mention of it in his observations.

to belong to the order of phlegmasiæ*—which, I am fully satisfied, from the many descriptions of it with which I have been favoured by numerous practitioners, it most assuredly participates of, I may venture to affirm, that what has greatly added to the fatality of the disease, has been owing to its not having been specified by an appellation expressive of its character.

Every person who has furnished a description of it, admits it is more or less inflammatory at the commencement; and that the inflammation, generally speaking, is found to be in a ratio to the length of time the sick have been in the hot climate; that is to say, the shorter the time they have been in it, the more violent and active the inflammation is, and *vice versa*.

Few individuals in England have been more in the way of receiving information, concerning this disease, than the author. I shall only, however, try to assist the young inexperienced practitioner, who may happen to be so unfortunate as to have it to manage immediately upon his arrival, by putting him in possession of the manner in which it was managed successfully by Dr. White, with whom I corresponded while he was in the West Indies.

On the 26th of Nov. 1796, he wrote to me—
 “ With respect to the epidemic, I have long been
 “ of the same sentiment as yourself, and have only
 “ styled it *fever*, in compliance with common opi-
 “ nions. Instead of indefinite terms, which are liable

* To which fever does not.

“ to misapplication, and are consequently the
“ abundant source of malpractice, as we have
“ lately seen, and still see, in the term fever—ex-
“ tended to many various and opposite complaints.
“ I have even thought it advisable to denominate,
“ where it can be done, the different diseases from
“ the symptoms—without having a constant eye to
“ this, can rational practice be expected?” The
doctor then describes his antiphlogistic mode of
treatment, which consisted chiefly of bleeding;
clysters; tepid bathing; citric acid, and keeping
up a free perspiration. These means he repeated
until the inflammatory diathesis was subdued: that
is, until the pains and constipation of the bowels
were entirely carried off.

He began with bleeding the moment the patient
was taken ill, repeating it according to circum-
stances, until in some cases before relief was ob-
tained *xc* ounces of blood were taken away; the
clysters also were repeated very often.

Amongst the tonics, which he used, he classed
unction with oil; and cold sea-water bath-
ing. He says, that at first he lost two patients,
whom he had treated, after the prevailing mode,
with calomel, which he execrates in bitter terms
for causing loss of time, if no other mischief, which
could never be redeemed, as twelve, fifteen, and
often more hours were lost, before a stool could be
obtained by it—to say no worse of it.

Mr. Wardrobé, who lived about twenty years in Dominica, has furnished me with his sentiments concerning the yellow fever, as follow :

“ The yellow fever appears to be an epidemic
“ of the West Indies, strongly inflammatory, but
“ not infectious ; attended with an extraordinary
“ secretion of bile ; attacking principally the young
“ and robust who have not been long from a cold
“ country, and those of a plethoric habit, with
“ equal violence at all times of the year. But it is
“ most prevalent during the hot and wet months,
“ from May to November.

“ People beyond the age of forty are rarely
“ attacked with it ; and those who are, generally
“ recover.

“ The natives, and African negroes, are also
“ liable to its attacks, after great fatigue in the heat
“ of the sun, hard drinking or imprudent exposure
“ to cold air while in strong perspiration.

“ It seems to be a similar disease, if not the same,
“ to that which is called, by Europeans, a sea-
“ soning : for it is scarcely possible to distinguish
“ any difference between them. And they are
“ only to be cured by the same mode of practice,
“ *early and copious evacuations frequently re-*
“ *peated.*”

But not one word of calomel ; which practice, when conversing with him upon the subject, he reprobated with asperity.

Dr.

Dr. Gillespie, in his accurate observations while he superintended the hospital at Martinique, has paid particular attention to the yellow fever, or *causus*.

After a very minute description, or history of the disease, which he termed *causus*, because the ardour of the skin was by far the most constant attendant of it; and after reasoning strongly on the nature and causes of *causus*, ardent, or burning fever, he adds, “It is true, however, that this symptom, “an intensely hot skin, sensible to the touch of “every person; as well as the yellowness which “often occurs, and lividity of the skin (observable “more rarely); the bilious discharges which often “take place from the body; the malignancy and “tendence to putrescency, are not invariable in this “disease.

“Infection may be enumerated as a cause of the “spreading of the disease on board of ships, although “it did not appear to be remarkably infectious on “shore.

“The more immediate or proximate cause of “this disease, in its most violent degree, would “appear to be the supervening of an acute, malignant, inflammation of the stomach, liver, intestines, or of the head or breast—thus, in persons “accustomed to the climate, &c. But very different from this was the disease in persons neither “seasoned to the climate by a former residence in “hot climates, or by an abstemious regimen.

“In most fatal cases,” he says, “the symptoms “fully

“ fully pointed out an inflammation in one or other
“ of the viscera, and sometimes of all the three
“ cavities.”

By way of induction, he adds, “ If this reason-
“ ing on the nature and cause of ardent fever be
“ just, what opinion are we to form of the violent
“ practices which have been recommended in this
“ disease, and which, unfortunately for British
“ soldiers and seamen, have been but too much
“ followed? These are the administrations of calo-
“ mel, so much used during the present war. If
“ there be any steady, rational, though not infalli-
“ ble principle in medicine, it may justly be assumed
“ as one, that purgative medicines are inadmissible
“ in fever, attended with inflammation of the vis-
“ cera, particularly of the stomach, &c.” He
afterwards goes on to prove the deleterious effects
of the calomel practice, which he says, causes by its
action on the salival glands: “ the fever of saliva-
“ tion, in some cases accompanied by phrenitis,
“ angina, and general swelling of the integuments
“ of the head. Its advocates suppose that it acts
“ as an antiphlogistic in fever; an opinion con-
“ tradicted by every principle of therapeutics. His
“ reflections on the subject have been suggested
“ from experience, which he concludes by adducing
“ a remarkable instance of its fatal effects, and re-
“ commending a stop being put to such practice in
“ the navy in future.”

In speaking of the method of cure, he says, “ In
“ the first stage, bleeding, which often is attended
“ with good effects in ardent fever of the West In-
“ dies, and which appeared to be indicated from
“ the violent inflammatory symptoms, was practised
“ in the beginning of the epidemic (between August
“ 1795, and April 1796,) in several very robust
“ young men, but with very bad success * ;” which
he fully accounts for in the next paragraph.

“ When it is considered that the persons attacked
“ by this fever had been twelve months in the
“ country, and consequently were not exactly in
“ the predicament of persons just arrived ; that
“ most of them were of a scorbutic habit of body,
“ had long been operated on by the depressing
“ passions, &c. &c. there can be no surprise that
“ bleeding did not prove serviceable in this epi-
“ demic.”—That is to say, among his patients.

For the same reason, instead of purging medi-
cines, “ he had recourse to clysters ;” and these
he had made use of with great caution. “ The pa-
“ tient was bathed repeatedly, in the day, with fresh
“ lime juice. When the head was much affected,
“ opium given in small doses has a good effect,
“ both in relieving the head and allaying the nausea,

* But might not topical bleedings, by cupping, or leeches,
have been of great service in such cases ? Were the Doctor’s
bleedings in all cases, repeated sufficiently to be attended with
good effect ?

“ and vomiting sometimes. In some such cases
 “ blisters and bathing were serviceable. And,
 “ in the second stage, bark infusion was had re-
 “ course to, and was found serviceable; and also
 “ a little wine. In other cases, besides these,
 “ the cold effusion of water, and flannel waistcoats,
 “ were found serviceable. In some cases every
 “ thing acidulent, and saline, was vastly prejudicial :
 “ in these, mild farinaceous drinks were alone
 “ administered. Sea-bathing was attended with the
 “ best effects in re-establishing the health ; and also
 “ as a preventive.”

I have been under the necessity of confining my-
 self here to brevity in my quotations ; but to do
 Dr. Gillespie justice, I must refer the reader to his
 Book on Fevers in the West Indies.

I must, however, beg the reader's indulgence,
 while I lay before him the testimony of an excellent
 Officer concerning the calomel practice, who after-
 wards died of the *yellow fever*. He appears to
 have been under a strong presentiment that he
 would be one of the unhappy victims to that prac-
 tice.

“ You will scarcely believe the difficulty I find
 “ even in writing to you, or finding any thing to
 “ say. From all this” (antecedent part of the
 letter) “ you may guess how much I dislike the
 “ West Indies ; and I draw cause for my dislike
 “ from the misfortunes of the ship I now com-
 “ mand,

“ mand, which in a month, or six weeks, lost three
“ lieutenants, nine midshipmen, and near three
“ hundred seamen. They died of what is called
“ the *yellow fever*. In short, if a man was sick, it
“ could be nothing else; or could he have any
“ other medicine than what was administered in
“ that fever, which was calomel, nothing else; no
“ preparation; but the moment the patient com-
“ plained, whether it was pain in the head, or the
“ rump, it made no difference; and to this day
“ they persist in killing ninety-nine out of the
“ hundred by mercury; having nothing to say in
“ its favour, but that when the salivation has taken
“ place, my patient has recovered. That is, they
“ recover from the fever, and live miserable spec-
“ tacles of weakness and debility. Some few only,
“ and these young men, have recovered their
“ strength by bark and opium, &c.”

Such was the opinion of the calomel practice in the yellow fever, drawn from accurate observation by a man possessed of abilities that were almost equal to any station, and adorned with manners that would have graced any situation; who, with an only brother, nearly about the same time, perished in the service of their King and Country, under the treatment he had so deeply deplored.

Without attempting to make any comment on the preceding quotations, or to enter upon any theoretic discussion of the subject, as theory may be opposed to theory without end, I shall in a very

brief manner furnish the young and inexperienced practitioner with a few general directions, which his own judgment must apply, according as circumstances occur.

It is very well understood by almost every practitioner in what manner the diseases, which really and truly come under the order of Phlegmasia, must be treated in this, I shall add, in any, country: that is, in the antiphlogistic manner. In this country, or northern climates, to subdue pleuritis alone; it is found necessary to bleed very often; besides diligently using every other part of antiphlogistic treatment before the inflammation can be overcome; and it may be observed, that when a sufficient quantity of blood is taken away the patient is as easy, as if he had never felt pain. But when it happens, as it sometimes does, that the pain returns unexpectedly, recourse must be had to bleeding. If so then in a cold climate, how much more urgent must the letting blood again and again be thought necessary, in a climate, where the whole system is at once ignited, if I may be allowed the use of the word, into a state of dreadful inflammation; and will be quickly destroyed unless, without a moment's loss of time, recourse be had again to bleeding, until the patient is cured.

If, therefore, soon after the arrival of ships in hot climates, such complicated inflammation as has been very improperly called *yellow fever*, should make its appearance amongst the people, no reason

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son founded in physiology can possibly be adduced against putting the antiphlogistic treatment immediately into full force ; and, the sooner it is done the sooner will the sick be relieved, and recovered. If such promptitude and perseverance, in this practice, be required in cold climates for simple pleuritis, as we learn from experience, I say, how much more necessary do they, in reason, become in hot climates, when all the vital organs are at once seized with, and are in a state of violent inflammation, which, unless speedily prevented by blood-letting, will, most assuredly, soon terminate in gangrene ? Certainly an instant should not be lost after the patient is taken ill : and the repetitions of bleeding should correspond with the violence of the several cases, the progress, and fatal termination, of inflammation there being so rapid.—While one patient may only require bleeding once within the first twelve hours of his illness, perhaps, to cure him ; another patient may require to be let blood six times, within the same period ; and also to have it repeated often afterwards.

It may be laid down as a fact, derived from experience, that more can be done for the benefit of the patient, in cases of such violent inflammation, within the first twelve hours, than can possibly be accomplished within the next forty-eight hours. In short, the loss of a very few hours, in such cases as I have described, may undoubtedly be the loss of thousands of patients ; nay has, I fear, been the
loss

loss of many, many thousands. (The same parity of reasoning holds good in the management of fever. Lost time, in treating it properly, is never to be redeemed).

As to the quantity of blood to be taken away from any patient, it must depend so much upon unforeseen circumstances, that it is impossible to limit it, and must, therefore, be left to the discretion of the practitioner; who is to be governed chiefly by his patient's strength, and the violence of the symptoms, which, when perfectly relieved, will mark the point when to withhold the lancet, or to stop.

After the first bleeding, and between the bleedings, every thing that will coincide with them to mitigate pain, and subdue the inflammation, should be alternately made use of. Clysters to empty the bowels—tepid baths, somewhat hotter than the atmosphere, to promote perspiration—such drink as is most agreeable to the palate of the sick, to keep the perspiration up—confinement in bed, for the same purpose—cold applications to the head—artificial cold water, made by adding ammonia and sal nitre to it—and applying cloths, gently wrung out of it, to the head—would, perhaps, prove little inferior to refrigerant epithems—and even the affusions of cold water after bleeding might succeed, in some cases, in producing perspiration, and subduing inflammation.

In many cases, when the strength has not been necessarily very much reduced by the evacuations
to

to vanquish the inflammation, the recovery of the sick is extremely quick. But when the contrary happens, tonics become necessary: of which cinchona, and cold sea-water-bathing, will be found the most powerful. Flannel waistcoats also worn next the skin will be very beneficial in preventing relapses.

But when ships have been a considerable time in a hot country; when the tone and vigour of the system has been, by concurring causes, relaxed and assimilated to the climate, and perhaps broken down by scurvy, or other diseases—a difference in the treatment of the inflammatory epidemic, if it should unfortunately make its appearance, must take place: and more especially if the men have been previously afflicted with scurvy.

Under these circumstances, instead of bleeding from large orifices, as before recommended, although it is absolutely necessary to let blood, were it only to give the patients a fair chance, at least, for their lives (as it is impossible that any practice can be more unsuccessful than the calomel practice has been, according to the accounts we have of it, although so generally followed and recommended—but on what principle it has been practised, remains yet to be explained by its numerous and powerful advocates)—considering it, therefore, I say, not as a matter of choice, but of necessity, to try the effects of bleeding, the mode by scarification and cupping, and by the application of leeches—and repeating these bleedings

bleedings as the several cases require, will be highly and strictly proper, I am most seriously of opinion, and verily believe. For I have great reason to think, that when this practice of letting blood in caufus, has failed, it has been chiefly owing to bleeding from a large orifice, and to a sufficient quantity not having been taken away from the sick labouring under this state of the system now described, as well as from that previously mentioned *.

The antiphlogistic plan after the first bleeding, and between the succeeding bleedings, must be pursued in this state of the system as well as in the one already described—only with this difference, that now the most gentle means to obtain the end must be employed. The use of acids, both citric and mineral, ought to be more particularly insisted on both internally and externally—by the mouth, or by clysters; by epithems, fomentations, or baths—combining with them, as occasion may require, opiates and other sedatives—amongst which henbane, as occasioning no constipation of the bowels: *sp. ætheris*, *vit. comp. vel. sp. ætheris nit.* hold a chief place, or ought to be preferred. During the practitioner's perseverance in this plan, in the first stage of caufus, as here described, his care should be particularly

* In this country we find in peripneumonia notha; in many cases of erysipelas; as well as in many other cases, topical bleedings by leeches and cupping, of infinite service—wherein general bleedings are inadmissible. Why then, may not topical bleedings be equally efficacious in hot climates?

directed

directed to promote and keep up a copious perspiration ; a free discharge by the bowels, and urinary passage ; to alleviate local pains occasionally by blisters, and to allay the thirst, by the acids diluted and changed to the patient's craving. The use of the tepid bath ; cold affusion ; or of refrigerant epithems, must be left to his discretion.

In the second stage, he will find, besides the liberal use of the acids, bitters, such as columbo, snakeroot, cascarilla, quassia, gentian and camomile flowers, and other restoratives, the greatest necessity of having recourse to wine, and barks, in the form most agreeable to the patient—which will generally be in the fermented state ; and to cold sea-water, bathing, flannel waistcoats, and oily inunctions, will also contribute greatly, in many cases, towards a recovery, and guarding against relapses.

In the dysentery, the indication, after emptying the first passages, of determining the obstructed perspiration again from the bowels to the surface or skin, through which it had been prevented from passing, by wet, or cold, or insolation, must be invariably the same. And instead of opium rubbed up with ipecacuan, I would generally prefer the henbane powder of the extract—only administering twice the quantity of the henbane that I would of opium, to be administered in its stead ; and in such cases I would recommend equal parts of ipecacuan and henbane to be given ; beginning with one grain of each,
and

and increasing the dose gradually, and repeating it every two, three, or four hours, according to circumstances.

These are the hints which I have thought necessary to throw out merely for the benefit of young practitioners, who have never been in hot climates : by which I hope the public will be also benefited.

To return to my subject, after a digression which I hope the reader will pardon, I must here, in justice to myself, repeat, that whatever knowledge of fever individuals possessed, antecedently to the author's first voyage to the Coast of Africa in 1769, fever was then as much dreaded on that coast as the disease improperly called *yellow fever* is dreaded now in the West Indies. Neither was the type of the endemial on the African coast ; nor the method of preventing it ; nor a successful method of treating it made known until the author published the first edition of his Meteorological and Physical Journal *. But the reader may observe that his observations stated in that volume referred to, are not confined to that coast ; for it also states the appearance of fever at Newfoundland which proceeded from animal effluvia on board the Juno : not before taken notice of there ; and likewise the appearance of fever in the West Indies and at Pensacola ; with the mode of treatment.

* Dr. Winterbottom in his directions, shows how little it is dreaded now by following the author's footsteps. .

For the same reason I also think it proper to remark, that a successful mode of managing fever on board of ships, or in other situations, arising from infection, was not made known before the publication of the author's first edition of his *Observation on Jail, Hospital, or Ship Fever*.

Further, that fever had not publicly been declared and treated as a universal idiopathic disease; which was to be cured every where upon the general principle of stimulating and supporting the vital energy by tonics and roborants, until the author's *Essay on Febrile Infection* was published early in 1790.

Since the author's different works appeared, numbers of practitioners have published their observations on the diseases of hot climates in particular—besides the numerous productions concerning the disease improperly termed *yellow fever* before taken notice of. How far such writers have condescended to profit by the author's writings in their practice is best known to themselves. Some have evidently done so, and acknowledge it; and many who have not published, have, without the author's solicitation, furnished him with handsome testimonies of their having profited by them, and of their approbation of them.—One of these testimonies, which also shows that the roborant treatment of fever in the fleet was not *generally* practised, I think it incumbent on me to insert. What respects the practice, which the Gentleman alluded to followed, will

will appear more properly in the sequel ; couched in terms as nervous as the following letter :

“ Defence, Spithead, June 30, 1794.

“ DEAR SIR,

“ You are to know from the year 1775, when
“ I superseded you as Surgeon of the Deal Castle,
“ to the date of this letter, my time has been
“ mostly devoted to the diseases of seamen. In
“ that period I have often had occasion to witness
“ and remark (particularly in long voyages) the
“ mournful inefficacy of the *common remedies*
“ when applied to the cure of ship-fever.

“ On my appointment to the Defence, about
“ a year ago, Mr. Youile, my first mate, put the
“ last edition of your book into my hands ; and
“ having, after the late war, again sought for in-
“ formation in Edinburgh ; where, among other
“ courses, I attended the eccentric lectures of John
“ Brown ; from his *leading principles*, my atten-
“ tion was first directed to the remedies *you had*
“ *anticipated and confirmed by experience*. And
“ as I had hitherto found myself alike baffled in
“ the cure of fever, whether I resorted to the *Ob-*
“ *servations* of Hippocrates or Sydenham, or had
“ recourse to the reveries of Stahl, Boerhaave,
“ or Cullen ; I was determined for *one year* to
“ *follow your footsteps* on board the Defence :

The

“ The result you will find, in a note * added to the
“ cases, at the office for Sick and Hurt. Hoping
“ soon to have the pleasure of seeing you in town,
“ I beg leave to remain, with a grateful sense of
“ your public labours, your's, very sincerely,

“ JAMES MALCOLM, M. D.

“ Late Surgeon of the Defence.”

The doctor concludes the note, to which he refers, in the following manner:

“ I entertain no doubt, if the physician of the
“ Channel Fleet shall be directed to subject the
“ different theories of fever, and the practice
“ founded on each, to the test of unbiassed expe-
“ riment, in ships promiscuously chosen, that it
“ will be found greatly in favour of that (meaning
the author's) now inculcated.” Signed and dated
as above.

After these, I shall not trouble the reader at present with any other of the numerous testimonies in his possession, confirming his asseveration, “ That
“ until lately the nature of fever, and a successful
“ method of managing it, appear to have been very
“ little understood either locally or universally,” if
may judge from what has been written on the
subject.

These two important desiderata, the nature of
fever, and a successful manner of treating it then

* The substance of which will be related hereafter.

having providentially by experience been attained, it is of no great consequence to society, whether the symptoms by which we can distinguish fever from any other disease, be denominated diagnostic, as I have denominated them, or otherwise.

Whatever the symptoms are by the presence of which we are enabled to distinguish fever from other diseases, they are fairly entitled to the denomination of *diagnostic*. But all the symptoms which I term so, and which come under this denomination, are seldom complained of by any one patient; the most obvious reason of which, that occurs to me often, is, either the ignorance and inattention of the sick; or the violence of some of the symptoms which divert their attention from those that are less violent.

To describe fever with accuracy, from the first morbid change that takes place in the system, to its termination, physiologically and pathologically, such a patient, in my opinion, would require the comprehension of a Newton; the understanding of a Lock; the precision of an Euclid; united in a professional man, not less eminent in abilities than Dr. W. Hunter was. And granting such a patient had ever lived, we should be in the possession of the description of one case of fever only. For as no two cases were ever perfectly similar, in order that we might obtain *what is impossible to be obtained*, a correct pathological history of fever,

to

to furnish the necessary data for that purpose, I say, every patient afflicted with it ought to possess the talents I have described, to enable him to relate his own case with the same accuracy and precision as before-mentioned, without any answer being put into his mouth by the physician called in to prescribe for him. This is a degree of accuracy very desirable, I say, but not attainable; because we are often under the necessity of gleaning our information amongst the most ignorant of mankind; and without assisting them with words to convey their ideas and feelings, we should only gain from one, "*That he is ill and sore all over, and can't cut :*" from another, "*That he has a sore head,*" i. e. head-ach: and from a third, "*That he has a pain at his heart.*" In so vague and unsatisfactory a manner do many of them answer or reply to questions concerning their illness, unless we direct their attention, by some means, to their particular sensations and ailments. Here I am speaking of seamen; and to them we may add soldiers, and all the lower classes of people.

If any mode more eligible, or less objectionable, for coming at the knowledge of the feelings of the sick, and symptoms of the disease, could be pointed out, it would be extremely beneficial to mankind in general, and still more so to practitioners. The precise physician would not then be shocked with answers which convey no accurate information as

to the state of the ignorant sick, who think they give answers sufficiently indicative of all their complaints, in the answers before-mentioned. But what means will the physician who is far from being satisfied with them, resort to, I say, or take to be more fully informed? He must of necessity condescend to conform to the only method by which he can possibly be informed; that is, to interrogate the patient, so as to put the words into his mouth by which he is to answer, and to express his own feelings; otherwise he must remain in the dark as to what information he wishes to learn from the sick.

If any method that conveys all the information which is sufficient to enable us to distinguish fever from any other disease, or any other disease from fever, be followed, what further minute information do we stand in need of, even should we not be able to explain the various phenomena in the most accurately physiological manner? I know that in many cases of fever, to have an accurate and correct history of them, it is necessary, strictly speaking, to refer to the state of the patient's health for a considerable time antecedent to his complaining; because we now and then meet with intelligent people who have been able to date an alteration of the state of their health, for many days before they complain. For instance; in that introductory state to illness, vulgarly called *drooping*, after having
been

been infected, with or without the patient's knowledge. When a patient begins to droop, the change from the healthy to the morbid state may be dated, or said to commence. But in many cases it passes so slightly as not to be noticed. Such a state, however, is inseparable from cases of infection, be it long or short. The moment the patient is infected, that moment, whether known or not known to him or to the physician, the case begins, and the subsequent phenomena of the fever will depend mostly upon the state of the patient's system when he is infected, and upon the manner in which he lives, until it acquires such an ascendancy in the system as to manifest itself by the symptoms I have defined diagnostic. However, the incipient state is often accompanied with such symptoms as to attract the attention of the sick, though reluctantly, to his situation or consciousness of indisposition, and though they are not of that importance yet to induce him to complain. In several instances I have been sensible at the instant I felt myself infected. Some do complain, but will not conform yet to any advice.

Their complaints, as they express themselves, are gradual diminution of either the corporeal or mental functions, and sometimes of both; i. e. the memory becomes more and more impaired; they cannot give attention to any business; their sleep is interrupted by inquietude; both the appetite and strength diminish; while at the same time the countenance

may be observed to change to a morbid appearance; the patient may be observed to become indifferent about himself or his affairs, or to any circumstance around him; and a want of energy to exert himself, in any respect, may be remarked.

But sometimes the period between infection and the symptoms of the fever, more obvious than those we have just related, appearing, is very short, before the fever commences, and discovers the diagnostic symptoms. But unless we know for a certainty beforehand, that the patient has been exposed to infection, all the incipient symptoms above enumerated may be imputed to some other cause. As in the case of small-pox caught by infection, without the knowledge of the sick, and even by inoculation, some febrile diagnostic symptoms occur, particularly the pain of the back and head-ach. Although the morbid process commences with the insinuation of the pus, the indisposition which is occasioned by it is sometimes so slight as scarcely to be noticed until the eruptive fever takes place. At other times this process is more distinctly marked by a greater degree of indisposition. The process also, in many cases, is more violent and shorter in fever. All of which varieties depend on the constitutions of the sick, and the manner of their being situated and treated, and not on any difference of the disease.

If then, after the morbid indisposition above-mentioned, the symptoms which I have termed
diagnostic

diagnostic appear, or even some of them appear, and some of them only are complained of, no experienced practitioner would hesitate to announce the disease to be fever : and even the inexperienced, if he attends to the state of the sick, and to the symptoms complained of, would be under no difficulty to know what the disease is.

1. A singularly morbid appearance of the countenance*, which cannot be ascribed to the short time the patient has been ill, must strike him.

2. The head being affected with more or less pain, most frequently across the forehead; and also very often with heaviness and confusion.

3. Nausea, or retching more or less, with sickness at stomach, and loathing of food.

4. Universal pains, especially in the back; or, in the words of the sick, *pains all over them; wandering pains; pains in all their bones, or in their joints, but especially in the small of their backs.*

5. Debility and lassitude; which are accompanied by,

6. Rigors, or chilliness, both succeeded by heat; or chills and heats alternately and repeatedly, in a greater or less degree; and for a longer or shorter duration in different cases, succeeding each other.

7. If upon diligent enquiry it comes out that the sick, previous to their present illness, have been any

* The eyes are particularly affected with dullness.

way, or in any respect whatever, exposed to infection or contagion, no doubt will hang upon the mind of the practitioner what the nature of the patient's case is.

When these symptoms are present in any case, it is of no importance which of them the patients mention first, as that will depend on their violence; upon the order in which they harass the sick, individually, most severely; and upon their discernment. So that of seven men complaining at once of fever, each of them may at first mention a different symptom: this makes no difference, however, in their disease.

By this etching, or outline, fever will be discriminated by any practitioner of discernment; which is all the author here aims at.

Though fever, strictly speaking, is the offspring of infection, yet we shall hereafter have occasion to remark more fully, that it may be propagated by various other means. But as to the knowledge either of what febrile infection is, or what the nature of the process of other means which incidentally propagate it, is, I shall not attempt to explain the *causa prima* of any one of the operations of nature, on this occasion, no more than I would attempt to explain what oxygen, hydrogen, azot, or nitrogen is composed of; or what the nature or source of caloric is; or why there is such a partial commotion of the sea in some places

as

as to occasion its influx and reflux called tides ; or why no such commotion is to be observed in other places ; why suppressed perspiration in some patients one year should occasion cynanche tonsillaris, another year pleuritis ; in other patients peripneumonia vera ; in others peripneumonia notha ; in others nephritis ; in others rheumatismus ; in others ophthalmia, &c. &c. &c.

All, therefore, that can be said on this part of the subject is, that the proudest philosopher that ever lived, when driven to the *prima causa* in any of nature's works, is obliged to confess his ignorance. To relate the obvious and healthful appearances of the animal œconomy ; to perceive the alterations from these to morbid states ; to enumerate and class the symptoms or phenomena of such states ; and to prevent these from happening, and to remedy them when they happen, I believe to be all that is incumbent on the physician to study. I shall, therefore, after glancing at the different doctrines which have been gravely insisted on by eminent authors, concerning fevers, proceed to state what I have been enabled, by long experience and close attention, to say further on the subject.

CHAPTER II.

*Heads of the various Doctrines of Fever.**The Diversity of Opinions concerning the Nature or Cause of Fever.*

THE opinions concerning the theories of fever, as a disease; and also concerning its remote, and proximate causes, are so numerous, and discussed with so much ardent zeal by medical writers, that a synopsis or an epitome of them would compose some folio volumes. I shall not, therefore, undertake the Herculean task of quoting them, but refer the reader to the originals, both ancient and modern; and state in a brief manner the most prevailing doctrines, with the indications and the methods of cure which those eminent authors have, with great minuteness, deduced from these doctrines.

Here, however, it is necessary to observe, that pyrexia, or fever, without being accompanied with topical affection, *à priore*, is only to be considered now.

CHAPTER III.

On the Genera and Species of Fever.

THE writers on this subject, both ancient and modern, a very few of the latter excepted, differ widely in opinion, and consider it of great importance to divide and subdivide fever into genera and species; because of the different appearances or types which it assumes, as to the frequent recurrence, and as to the duration of the paroxysms, according to circumstances.

It is remarkable, that when professional men have a darling theory to support, the consequence of carrying it into effect, or of its being adopted, is seldom considered; and this darling is cried up as being more important than any of its predecessors.

“Fever,” it is said, “is to be divided into essential, and symptomatic.”

Again; “essential fever is to be subdivided into ephemera or diary; intermittent; continent, or remittent; and continual fever”—which are explained as follows:

“An ephemera or diary, is a fever of one day’s continuance.”

“Intermit-

“ Intermittent fever is either quotidian ; tertian ;
 “ quartan ; septan ; semi-tertian ; double tertian ;
 “ double quartan, &c.” which are considered as the
 different types of fever ; and in like manner are the
 following :

“ Continent or remitting fever, is defined con-
 “ tinued, but has its diminutions and its exacerba-
 “ tions, at very uncertain periods.”

“ A continual fever is said to have no remission,
 “ nor periodical return of exacerbation.” Of this
 type malignant and pestilential fevers, and the
 plague, are very unjustly “ supposed,” in my
 opinion, “ to be.” Because I have never met
 with one case of fever, wherein some alteration
 was not discernible within twenty-four hours.

These genera are again subdivided by nosologists,
 according to the symptoms and appearances of
 each individual case. “ Synocha or caufus,” when
 the fever is inflammatory ; “ typhus,” when fever
 is accompanied with nervous symptoms. “ Syno-
 chus,” when fever participates of both inflamma-
 tory and nervous symptoms. Besides these are
 enumerated many other species of continued fever ;
 of which the following are a few examples: “ Syno-
 “ chus imputris ; synochus putris ; lipyria ; elodes ;
 “ febris syncopalis ; spurij, &c.” amongst the an-
 cients.

According to the moderns, however, they are
 distinguished by “ inflammatory ; nervous ; putrid ;
 “ bilious ;

“ bilious ; yellow ; military ; scarlet ; petechial ;
“ malignant ; pestilential ; marsh ; jail ; hospital ;
“ and ship fever.”

But Sydenham says, that “ the constitution is
“ to be regarded, as it produces a fever *sui ge-*
“ *neris.*”

When the symptoms were very urgent, Boerhave called the fever “ acute.” When they were more mild and lenient, he styled it “ slow.”

Some eminent practitioners, however, divide fevers into “ inflammatory ; putrid ; a mixture of
“ both ; fever upon the brain ; and fever upon the
“ nerves.”

Others have divided fevers into “ hectic ; humoral ; and ephemeral ;” and explain these terms in the following manner : “ Hectic is that which
“ arises from an affection of the solids, or containing parts. Humoral is said to arise from some
“ derangement of the fluids, or contained parts.
“ And ephemeral is explained, as arising from
“ some disturbance of the spirits or nervous
“ system.”

What symptomatic fever is—being the febrile state consequent to any external injury, or internal local cause ; and to topical infection, every practitioner must well know.

Whether these distinctions have ever been useful to experienced practitioners, is perhaps doubtful : but the greatest advocates for them must, on
serious

serious consideration, allow that they have answered no other purpose to the young and inexperienced than to puzzle and mislead them ; instead of holding out any instruction or guide to them, which ought to be the principal object of medical writers.

I believe the same remark respecting the types, or periodical returns of fever, will equally apply ; and I fully believe, will never be found to answer a better purpose ; however pleasant it may be to the old and experienced practitioners to indulge themselves in making such nice discriminations within a narrow and limited practice.

CHAPTER IV.

Various Doctrines of Fever.

PHYSICIANS are found disagreeing in the same manner on these contingent circumstances. Many load Hippocrates with reproaches, because his prognostics and critical days have not strictly applied to their practice. Forgetful of the great difference of circumstances under which they practised; and that the treatment alone of the fever will very much alter the appearance and symptoms throughout all its different stages, as well as the period of its termination, whether favourable or unfavourable; which, indeed, affords no matter for wonder, when we consider that seldom any two physicians in the same place agree upon any medical subjects whatever. Hence the adage in every person's mouth, "Doctors will differ." And which but too plainly shows upon what a vague and uncertain principle medical practice is often conducted.

The reader who desires to be more fully informed concerning the doctrine of prognostics, may consult the writings of Hippocrates; and of his translators Clifton and Le Roy; or the translation of the latter.

Respecting

Respecting critical days, they are said to be the 3d, 5th, 7th, 9th, 11th, 14th, 17th, and 21st days of the patient's illness, and so on. Many eminent writers to this day continue to pay great regard to these, and expect the favourable concoction and evacuation of the morbid matter to happen on these days only, or at least chiefly.

CHAPTER V.

Various Indications for, and Modes of the Treatment of, Fever.

THE prevailing opinion among moderns is, that the indications for the cure of continued fevers are, 1st, to moderate the violence of re-action; 2d, to remove the causes, or to obviate the effects, of debility; and, 3d, to obviate or correct the tendency of the fluids to putrefaction; which in other words signify, to abate the inflammation, by debilitating the patients, according to the antiphlogistic mode, and starving the disease; then to strengthen them; and, lastly, to obviate or correct the tendency of the fluids to putrefaction, by tonics and antiseptics.

This is the most prevailing doctrine at present, though in fact it contains nothing essentially different from the old doctrines, as this only divides the indication into three *nominally* distinct parts; and using other words to express the same meaning.

In the former edition of my Observations on Ship Fever, I observed that, notwithstanding the most generally received doctrine of fever among physicians was considered “to be an effort of nature

“ to throw off, or to free herself of, some morbidic
 “ matter, it was judged highly improper to impede
 “ or to accelerate her operation ; which constitutes
 “ the famous doctrine, the *vis medicatrix naturæ*.”

But notwithstanding this sacred *axiom* and injunction, it appears very evident from their practice how soon they lost sight of, and how little they regarded, their own precept. Receding from one theory, they instantly adopt another, which furnishes them with the most cogent reasons for diminishing the violence of “ *reaction*,” i. e. the impetus of the blood; or, in other words, the *vis medicatrix naturæ*, by letting blood repeatedly, according to the violence of reaction which employs the first day, and perhaps several days, in the beginning of the patient’s illness. The same reason again urges the necessity to carry off part of the morbidic matter, by vomiting, purging, sweating, and warm bathing, alternately for days.

Again, to remove spasm from the extreme vessels; to promote, keep up, and to moderate perspiration, and all the different secretions and excretions, the same reasoning prescribes neutrals in different forms, viz. aq. ammon. acet. sp. mindereri, saline draughts, nitre, crude sal ammoniac, kali vitriolatum, kali tartarifatum, antimonials in different forms, particularly James’s powder; or, what is still more pernicious, perhaps nauseating doses of tartar emetic frequently repeated. Several days having been
 employed

employed after this manner*, they have fully accomplished their first indication, “to moderate the reaction, by reducing the strength of the sick.”

The second indication, therefore, viz. “to remove the causes, and to obviate the effects of debility,” becomes necessary. And for this purpose febrifuges and tonics are prescribed; amongst which camphire, contrayerva, myrrh, and blisters are included, and greatly depended on by many physicians. The latter are applied as stimulants, but much more frequently to keep up a drain of the morbid matter. It follows, however, either from the too greatly debilitated state of the patients, from attaining the first indication, or from the insufficiency of those tonics, or, more probably from both of those causes, they are soon compelled to fly to the medicines intended to fulfil the third indication, “to obviate or correct the tendency of the fluids to putrefaction;” which, if practicable, can be effected only by bark, wine, opium, acids, and other stimulants. But again, either from the tone of the stomach and digestive powers being already so much debilitated, the antiseptics, in the manner they prescribe them, are seldom effectual; the failure of the practice is unfairly attributed to the cinchona.

* The number is uncertain, as it depends on circumstances.

The impropriety of this practice, as well as of the alexipharmic, which varies only after beginning as before mentioned with the antiphlogistic mode of treatment, in prescribing medicines to expel the morbid matter through the pores of the skin, instead of dilutents, refrigerants, and aperients, administered by the other sects, is well and fully exposed by Dr. Millar and by John Brown*.

From what has been said, it will appear obvious that the difference between ancient and modern practice has been chiefly in words, and but very little in fact. For the whole scope or aim of treatment has been to debilitate the sick in the first instance ; to purge off by various means part of the morbid matter ; then to obtund acrimony ; to neutralize acidity ; and to render all other morbid particles bland and innocent, or to carry them off, and at last to strengthen the patients : so that though they differed widely sometimes in their choice of more or less violent medicines, they were still of the same class, and intended to act upon the same principle.

Such has been the management of fever, with the exceptions before mentioned, from the time of Hippocrates to the present day.

* Observations on the Prevailing Diseases of Great Britain, part ii. chap. vii. p. 231. Observations on the Management of Diseases in the Army and Navy, part ii. chap. v.—xvi. p. 191—219.

Here I shall only take notice of one fatal source of the antiphlogistic treatment of fever; and indeed of all the other sources, not better founded. The one I mean is, I apprehend, the mistaken idea of physicians, “ That when people in high life, who live luxuriously, are seized with fever of any type *, it is imagined that it is impossible it can be otherwise than inflammatory fever; and therefore that the strength of their patients cannot be too soon reduced by the antiphlogistic treatment. But were these inferences just, should we see so many instances of people of all ranks daily falling victims to fever?

I believe it may be laid down as a general rule, that the sthenic diathesis is rarely a consequence of casual excess in a healthy constitution. But that the asthenic diathesis is very frequently a consequence of habitual excess, as well as of too penurious living.

To proceed further on this subject, would lead me too far into the field of theory, which it is not my intention to enter, for the sake of argument. I shall therefore leave it to those who have more leisure and inclination to do it scientifically. In the mean time I shall confine myself to experimental facts; and by endeavouring to state them clearly, assist the inexperienced to discriminate fever

* I speak in conformity to custom.

from any other disease, and to manage it more successfully than it has been hitherto.

The young and inexperienced of the profession, sent into the world to practice with their minds impressed with the various doctrines I have only glanced at, remind me of the dove which Noah sent the first time out of the ark—"She found no
"rest for the sole of her foot."

PART II.

PRACTICAL REMARKS ON FEVER, OR FEBRILE
INFECTION.

CHAPTER I.

Causes why Fever has not been considered Infectious.

IT will not, perhaps, be thought altogether foreign to the purpose, to state the reasons why fever has not been hitherto considered infectious. This seems to have happened chiefly from the following circumstances :

1. Because practitioners have erroneously annexed to infection, only the idea of the superlative degree of virulence ;—and that such a disease, therefore, must always be as deleterious in its nature as the plague of Athens. And, according to this idea, that it would suddenly destroy almost every

every person infected. That if fever was infectious, it consequently, they imagine, would be much more fatal than it now is, as is the case with the natural small-pox and measles. But close attention to known facts concerning fever, wherever it has prevailed, will convince them of their error. The disease called the plague is universally acknowledged to be the most highly infectious, tremendous, and fatal of all diseases; but by what appellation is that disease to be distinguished, which destroys, in a few weeks, upwards of one-fourth of a ship's company, as febrile infection did on board his Majesty's ship *Venus*, in 1777?

A more dreadful instance yet of its fatality happened on board the *Ponsonby* East Indiaman, in 1765. In the space of a few weeks, after they left *Mohila*, above seventy of their people died. (See vol. iv. of *Medical Observations and Enquiries*, p. 156, 157.) Other instances might be adduced to show, that both fleets and garrisons have been unmanned by fever. Does it then merit the appellation of being infectious, or is that title too strong? I think not; especially when the infection can be unequivocally and positively traced from the sick, to those who have any intercourse with them.

2. Either because practitioners have not taken the trouble to enquire by what means the sick got their fever, or from their not crediting the information of others, who have made it their study to
trace

trace the disease to its infectious source. But, on the contrary, when they have been informed of its being infectious, have scornfully retorted,—Infection! the devil! How, or where should they have got infection? As if it had been impossible. This fever, *others* say, appeared at first with inflammatory symptoms; and afterwards was obviously accompanied with low, nervous, malignant or putrid symptoms, with very little or no remission—Very possible; and yet not less infectious.

3. Because practitioners either prefer scepticism to informing themselves by diligent enquiry and attention to diseases, or because they imagine that, by wrapping themselves up in the mantle of scepticism, they acquire, and are adorned with a degree of superiority and consequence. I would not, however, have it understood that I mean to stigmatize, and much less condemn, with indiscrimination, every person with the appellation of an obstinate sceptic, for not believing the *ipse dixit* of every one who thinks himself qualified to write and to dictate to others, or who only withholds belief until facts are made out to him by the observations of others, or by his own observation. But they deservedly incur the appellation, who pay no regard to opinion, nor to the writings, founded on observations which adduce irrefragable proofs that the authors have had opportunities to become intimately acquainted with the subject,

subject, and that they have been successful in the management of the diseases in question.

In human life many circumstances of very great importance are daily passed by without the least notice being taken of them, only because we know nothing of their situation, nor of the advantage it would have been to us before-hand to shun them.

Thus it is with seamen, in particular, who are daily failing past unknown shelves, sands and rocks, without the least concern, only because they are unknown to them. But when these dangers have been discovered and marked out, how vigilant and careful afterwards are they to steer clear and avoid them.

This reflection strictly applies to medical practitioners who are not acquainted with the nature of fever, that it is infectious. They neither guard against it themselves, nor prevent its communication to others. But after they are apprized of the secret danger, they naturally use every method to prevent it from becoming more virulent, and from spreading.

Other reasons why fever has not been considered infectious might be adduced; such as the dread, perhaps, of impressing the relations and attendants oft he sick with so much timidity as to prevent them from giving the sick due attendance, and
taking

taking proper care of them ; which to me appears an apprehension without any foundation to support it. Is it more prudent or charitable to suffer a person who is blindfolded to walk over a precipice, than it is to uncover his eyes to shew him his danger that he may walk past it safely?

CHAPTER II.

Consequences of Fever not being considered Infectious.

IDIOPATHIC fever, from whatever cause it originates, whether from habitual excess; or from too penurious living; whether from heat and moisture, or from cold and moisture; whether from excessive fatigue, or from indolence and sloth; whether from exposure to the ardent rays of the sun, *i. e. insolation*, called by the French a *coup de soleil*; or from extreme cold; whether from marsh miasmata, or from contagion—I have always observed becomes more or less infectious according to circumstances. This observation being founded on experience, becomes an object of so great importance as to claim particular regard and attention; and induced me to apply the denomination, febrile infection, to fever.

Infection or contagion then being the most dangerous phenomenon or property of fever, because it is inseparable from it, too much care and caution cannot be taken to mitigate its virulence, and to confine it within the narrowest limits that is possible.

But

But this doctrine of the infectious property of fever, not being known universally, or not being credited, which amounts to the same in the event, I shall in this chapter state, from my own knowledge, the consequences of latent and unsuspected febrile infection. These are a general neglect to use proper means to check it; to prevent it from spreading; or to treat it properly. And also a neglect of using proper means to guard the attendants on the sick from being infected; or from its becoming fatal to them if it should seize them.

In the year 1770, I belonged to a ship employed on a station commonly thought very healthy; on board of which a man ill of fever died a few days after he was admitted, out of compassion, much against my inclination and positive advice to the contrary. Our ship*, though very healthy before, immediately became sickly, and continued so while I belonged to her. And I was afterwards informed, by the surgeon who succeeded me, that the people continued to be sickly while the ship was in commission, which was more than a year after I left her. When officers neither know the consequence of admitting sick on board, nor will pay regard to their surgeons who advise them against it, obstinacy is a mild appellation for their conduct. Were

* See Vol. i. Part ii. chap. iv.

such officers alone to be the sufferers, it would be some excuse for it. But as their obstinacy may involve a ship's company's health, as well as the service on which the ship happens to be employed, in eminent danger, I can see no extenuation to be made for the error. If the officer is humane, and thinks the person an object of compassion, it would always be right on such occasions to relieve him at his own expence; or to send him if possible to an hospital: but upon no pretence whatever to admit him on board of a ship.

On the 26th of October 1776, sixty supernumeraries were sent from the Rainbow on board the Juno, after our convalescents had been sent on shore to sick quarters at Halifax; and great pains had been taken to destroy the infection, by washing, burning good fires, and smoking the ship. Eight of those supernumeraries, on examining them, were found to be very ill of ship fever: I therefore applied immediately to Captain Dalrymple, to represent it to the commanding officer, and get his order to return them, which he granted, and next morning was put in force. But the surgeon of the Rainbow, though a gentleman of good understanding, not suspecting any infection, imagined their complaints were only slight colds. I was afterwards, however, confirmed more fully in my opinion, of the infection being on board that ship, by the people becoming sickly soon after.

When

When the Juno arrived at New York, the 1st of January 1777, judging it my duty, I reported on the sick list, which was to be delivered to the commander in chief, that the fever on board of our ship was infectious; and that it would be necessary to send the sick on shore to the hospital, that we might endeavour to destroy the infection on board, by every means in our power.

The physician prepared to receive the sick, who were sent next day, but being in a convalescent state, they stood in need only of change of air, nourishing diet, and of having their clothes well cleaned, to restore them to health. But the physician, when I went to the hospital two or three days after, to see our men, said to me, he was surprized I could report that there was an infectious fever on board the Juno, when nothing was the matter with the men whom I had sent on shore; and that, should Lord Howe be informed of the circumstance, he would certainly be highly displeased. And the surgeon of the Eagle, his lordship's ship, told me afterwards, that it was with difficulty he could prevent the physician from making his lordship acquainted with the matter.

The consequence of that gentleman's obstinacy and inattention was, that four of our men, with whom he said nothing was the matter, died of relapse. More of our men ill of fever, sent afterwards, were permitted to run about the hospital delirious. What the further consequences of this infatuation

infatuation occasioned in the hospital, might be, or were, I leave to the reader to imagine.

On the first of March 1778, when the Haerlem cutter came into Cape Cod Bay with the transports—sent under a flag of truce to bring General Burgoyne's troops, which surrendered at Saratoga, from Boston—I was sent on board to see the lieutenant, now a flag officer in the service, commanding that cutter, who, in the cutter's sick list, was reported one of the sick to Captain Dalrymple, the senior officer upon that service. I found the lieutenant, the surgeon, two midshipmen, the clerk, and three or four men and a boy, very ill of ship fever; and the surgeon, so far from suspecting the cause to be the infection, was much surprized when I enquired where, or by what means, they had caught it? On further enquiry, I learned from the lieutenant, that he had brought from the prison ship, at Rhode Island, a few prisoners belonging to the Vineyard. And that they had been brought to be set at their liberty, as an inducement for the inhabitants to send off pilots to pilot our transports through the shoals; by which means I traced the infection back to the prison ship, on board of which I knew it was extremely virulent and fatal.

The Haerlem being immediately ordered up to Boston, the lieutenant, and the rest of the sick, were removed on board of a transport; and the
surgeon

surgeon of the Cerberus was ordered to attend them all, except the lieutenant, who requested I might continue to visit him. For several days I in vain endeavoured to persuade the surgeon of the Cerberus, that it was ship-fever of which those men were ill; until I asked him if he had not perceived petechiæ on them? to which he answered, that "he had not looked for any, but that he "would go and examine some of the patients." He soon returned, exclaiming, he observed petechiæ, and that it was the true *Febris Carceraria*. He then thought it necessary to prescribe bark for them immediately, though it was done too sparingly; and then attributed a slight indisposition of his own and his mate's illness, to the infection they had caught in attending the Haerlem's men.

The lieutenant, now a post captain, who was the agent for those transports, had frequently visited the lieutenant on board the Haerlem, and had taken his servant, a boy, with him. The boy died very soon after of the infection, before I was sent for to visit the lieutenant, who was extremely bad under my care, without the cause ever having been suspected until I mentioned it.

In October 1778, I visited, on board of a transport at Sandy Hook, the master and some of the people, whom I found very ill of ship fever; and, upon enquiry, I learned from the master, that neither he, nor the people of the transport, had

been healthy since troops had been on board, a number of whom were sickly; but he added, that he had never suspected that the troops had left infection behind them, which was the real cause of their illness.

Being in London in the winter of 1778, a captain of the navy, and friend of mine, desired me to visit his servant, who had lately come from sea with him. Finding the young man very ill of ship-fever, I enquired of the nurse what the apothecary said of him. She told me that “he thought it “was only a cold he had caught, and that he would “be well in a few days.” The medicine appeared to be saline mixture, with some antimonial preparation, perhaps, which he was taking. I desired the nurse to tell the gentleman that I would meet him next morning; but unluckily he got before me, and left with her the following message: “That he could not possibly wait for me: but had “the pleasure to inform me, his patient was much “better, after having sweated all night and he had “no doubt would soon be well.”

But the fact was, I found him much worse; and suspecting, from the appearance of his countenance, that he had been more delirious in the night than common, I asked the nurse if her patient had not raved in the night, and for some nights before? “To be sure,” she said, “he had talked wildly for “nights, but much more so last night than he had “done

“done before.” I desired his master to get him sent to an hospital immediately, which he did : and there the young man recovered with great difficulty, by an abscess forming on his hip ; as he himself told me some months after, when I met him. He was then so emaciated, that I scarce knew him ; and he could not recollect that I had visited him during his illness ; so much had his intellects and memory been affected.

Certain it is, that ship-fever appears so insidiously at times, that men of great physical knowledge have mistaken it for very slight complaints ; and have been thus led to suppose, when employed to examine sick, that many of the patients were only skulkers ; when in fact numbers of them were so extremely ill at the time, that they have died soon after. Many such instances might be related, though I shall only mention one.

Near the end of the American war, two line-of-battle ships were cruising together ; and the men on board one of the two became so sickly, that it was found necessary to report the state of their health to the senior captain, commanding the other ship ; the senior captain accordingly ordered the surgeon of his own ship to go on board, and examine into the state of the sickly ship’s company’s health. The report was, I have been well informed, “ that “very little ailed them.” But however trifling, in that gentleman’s opinion, their complaints were,—

a number of the patients died before the ship could get into port, though she was kept out but a very short time after the survey. Gentlemen employed on so serious and grave an employment as to examine sick on board of ships, or on shore, ought always to act so guardedly and leniently towards the sick, as to frame their report humanely, by which means their character will be in no hazard of suffering either professionally or morally. 'Tis far better that many skulkers should escape with impunity, than one deserving object of distress should be lost. Besides skulkers cannot impose long upon a discerning surgeon having a daily watchful eye over them.

Besides, to any fleet a sickly ship is the most dangerous enemy they can meet, or have communication with.

Within my own knowledge, a medical gentleman was sent to inspect the state of health of a ship's company, several of whom had died of infection; and of whom, several to that gentleman's knowledge had been sent to an hospital, or hospital ship, ill of fever—as their sick tickets testified, yet he reported it was only catarrh they were ill of; and not a word mentioned of the infection.

In the year 1783, fever was extremely prevalent throughout the kingdom; and had as many different titles given it as there were technical names in the lexicon, according to its various appearances,
which

which depended on situations, circumstances, and treatment of the sick only ; though I am perfectly satisfied that it was febrile infection, spread by the seamen and soldiers which were then paid off from the fleet and the army !

In November 1785, I was called in to attend two families, very ill of febrile infection, in Dibden, of which one in each family died, without the cause being suspected until I made it known*.

At Minstead, a village near Lyndhurst, in the New Forest, about the end of April 1788, I visited a farmer, whom I found dangerously ill of febrile infection. The surgeon who attended him, so far from having any suspicion that the fever was infectious, smiled when I mentioned it to him. However, the patient recovered ; and upon diligent enquiry has since informed me, “ that one of the
“ paupers of the parish, who had been in Somerset, was sent home sick with his family from
“ thence ; all of whom were almost starved, naked,
“ and sick when they arrived ; that many of the
“ inhabitants went to the poor-house to see them ; that
“ the parish officers, of whom my patient was one,
“ not being able to get any person to attend them,
“ they were obliged to do it themselves, and the
“ pauper died of the fever ; with which all the
“ poor family were afflicted. My patient also told

* See Vol. i. Part i.

“ me, that he believed he had got his sickness by these means, by attending them.” But though the infection spread through the parish, and carried off numbers, none of the farmer’s numerous family were infected : which comes directly in proof of what I have said on this subject in the introduction to the work ; viz. That febrile infection not being communicated to every individual in a family, is no more a proof of fever not being infectious, than that small-pox is not infectious when accidentally introduced, and do not attack every person of the family who has not yet had them.

That when people inhale for a long time febrile infection, it becomes absolutely both the remote and proximate cause ; yet the sick thus infected may not infect others that have not been exposed to the same remote and predisposing cause, as was the case on board the *Rainbow*, when no person was afflicted with fever but those who were exposed to, and inhaled the marsh effluvia or febrile infection for some time*.

Many more instances I might relate : but these†, I hope, will be sufficient to set the community, as well as medical practitioners, on their guard, never to make light of fever, which is always most certainly more or less infectious, according to circum-

[* See Vol. i. Part iii.

† The reader may also see many in Dr. Lind’s *Treatise on Fevers and Infection*.

stances; which is capable of attaining the most alarming degree of virulence from neglect; and of becoming plague itself—that is, febrile infection in its most virulent phenomena.

These unsuspected instances of infection and their consequences, are not mentioned with an intention to censure the characters or memories of individuals, far less to enjoy a triumph on the occasion. I have done it merely to set the community and medical practitioners on their guard, as much as possible, that such fatal effects from obstinacy or inattention may hereafter be obviated. It will be admitted, I presume, that whatever respect is owing to the merit and characters of individuals, the regard due to the community is still far greater: the consideration of which, I trust, will be considered a sufficient reason for my having stated facts so important to mankind. No other motive would have induced me to undertake so laborious and unprofitable a task.

CHAPTER III.

Reasons why Fever is more easily cured in Hot than in Cold Climates.

AUTHORS agree tolerably well as to the reasons why fever is more easily cured in hot climates than in cold ; but, in my opinion, none of them have bestowed sufficient attention on the subject to explain them. As it appears to me of the utmost consequence in practice, that they should be thoroughly explained and understood ; I shall here endeavour to throw some light on the subject in this chapter ; by enlarging on it more fully than I have yet seen it done in the works of any preceding author.

In hot climates, the sick are lodged on board ship, in hospitals on shore, or in private houses, in more airy situations, and seldom lie with more than a sheet over them, and with very little woollen about them. The healthy seamen, truly, seldom lie on their hammacoes, if they can find any place to spread their bedding any where above deck, or about the poop, booms, forecastle, or even the tops ; and then they generally sleep in their frocks and trowsers upon the bedding, without any other covering, not even regarding
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or fearing the night dews, to which indeed they ought never to expose themselves. A frock and trowsers, a cap and shoes, are the common apparel of sailors, of which they have a change or two: and for their own comfort, when they are too lazy to wash them every day, they rinse them overboard, or in sea water, and dry them in the sun; which they very readily do for one another when they are sick. So that their dress, whether they are sick or well, is always cleaner and lighter, besides being less adapted to imbibe and retain infection, than it is in a cold climate: consequently the aura or vapour arising from the sick themselves, must be far less obnoxious to them, and to every one about them. This fact speaks for itself. When they arrive at a convalescent state, whether they are at an hospital or on board ship, there is very little difference in their dress: instead of a frock they wear a shirt, and a thin jacket without lining.

Ships, from the mildness of the atmosphere, are much better aired, oftener and better cleaned, than in colder and stormy climates; so that people, whether they are well or sick on board, breathe a purer atmosphere in hot than they can possibly do in cold northern countries.

The inhabitants on shore are chiefly dressed in very thin cloth coats, without linings; or in linens, nankins, dimities, or silks and mullins, and thread or silk stockings; their linen is often shifted, at
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least twice in the day. Their beds are hung with muslin or gauze, and they sleep with a sheet and thin counterpane over them ; so that their bedding is easily aired in the sun, or washed, which is frequently done : infection by these means is either washed away, or not at all harboured. Besides, their houses are airy, being built with care to receive a thorough draft of the sea breeze, or most prevailing wind, in the day time. But they are equally careful to exclude the night air and land winds.

The facility with which perspiration is likewise promoted, is a great advantage to the sick and the practitioner, the pores of the skin being generally open, which no doubt contributes greatly to the effect of the medicines employed in the relief of the patients. These are advantages, and they are certainly great ones, which the patients derive from their situation in hot climates ; to which may be added another of some consequence—i. e. the difference between the medical practice in hot climates, from what it is in northern latitudes. As diseases, especially fever, terminating in climates between the tropics, are more speedily fatal than in those countries situated to the southward and northward of them, physicians are obliged to be more early and more active in the former than in the latter—In which many eminent practitioners are still governed by the doctrines of *despumation*, *depuration*, *concoction*,

concoction, and critical days, which are only productive of procrastination, if not destruction. But their practice in other respects is conducted after the same manner as it is in colder climates.

There are diseases certainly in which physicians may discover profound judgment, by patiently and attentively observing their progress, and watching for a favourable moment to act: but such delays in fever, in hot climates, are always dangerous, if not fatal. Experience has convinced me, that more can be done for the patient within the first twenty-four hours of fever, in any climate, than in many days after, admitting every thing to go on favourably in either climate. Words can convey no idea of the advantage arising to the sick from an early and liberal use of medicine in fever; nor of the pleasure enjoyed by the physicians, who have it in their power to prescribe from the beginning of the patient's illness. *Obsta principiis* is in no disease more applicable than in fever; for one day lost in treating it is, generally speaking, never to be redeemed.

But from the moment fever commences in a cold climate, the sick begin to breathe in an infectious atmosphere; which is rendered so from the nature of their dress, their bedding, and from the little confined rooms on shore, as well as on board ships; in bad weather especially the air almost unavoidably becomes more and more contagious, until they
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either recover, or warm weather sets in, which enables them to admit a frequent change, if not a free circulation, of air into the apartments of the sick, and the patients to wear fewer woollen clothes and blankets—the most effectual retainers of infectious effluvia, which are constantly thrown off from the general surface of the body, by perspiration as well as by respiration, and also from the excreta, urine and fæces.

It is also to be lamented, that, under such circumstances, many particles of the noxious effluvia are momentarily taken into the circulation again to both the absorbents and the lungs, and consequently must acquire a more exalted degree of virulence. Besides, many common people, in cold climates, do not change their linen oftener than once a week, if so often. But all these evils are concentrated in the sleeping apartments and beds of the sick, during the winter; when the latter, especially, are loaded with woollen or cotton furniture and blankets, which are either very seldom cleaned or aired, and never shifted; and during the winter, all possible care is taken to shut the air out of their apartments, which undoubtedly tends to aggravate the evil.

These circumstances, if duly considered, will be allowed to explain satisfactorily to any philosophical reasoner, why fever is more easily cured in hot than in cold climates; without erroneously supposing that there is any specific property in the
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air of hot climates, to resist or to overcome febrile infection. Experience has often proved, while fever prevailed either on shore or on board of ships, unless a proper use is made of the local advantages peculiar to hot climates—that so far from the heat being a benefit, it becomes to the sick, and to those attending them, an additional calamity. An instance of this happened at Jamaica, in 1782, on board of some of his majesty's ships of the fleet under the command of the victorious Lord Rodney, after the defeat of the French fleet.

The advantage in practice, in hot climates, derived from the perspiration being more easily kept up than in a cold climate, by proper treatment is very easily made up and supplied.

The circumstances which I have stated, appear to me to be the most essential, why fever is more easily cured in a hot climate than in a cold one; and which I have not found sufficiently allowed and attended to.

CHAPTER IV.

*The Necessity and Possibility of distinguishing
Febrile Infection from other Diseases.*

IF idiopathic fever, or febrile infection, be what I have described it, “an universal disease, and “always more or less infectious, according to circumstances,” no medical subject can be more important to mankind; and that the author, in the preceding volumes, has made out this position in three quarters of the world, every reader who will take the pains may satisfy himself.

I have great pleasure, therefore, in observing now more than *incipient* signs of the public reception of an opinion, which, when I first ventured to utter and promulgate it, was considered visionary. Besides the few practical authorities * by which it was then supported, it is now further supported by the powerful authority of the late eminent reader on the practice of physic †, and others.

These high authorities, it may be observed from their own writings, rejecting the visionary division

* Drs. Miller and Clark.

† Dr. Geo. Fordyce.

of *fever* into endless genera, admit of its assuming the aspects of intermittent, remittent, and continued; and, in further support of the author's position, by the eminent reader before-mentioned, fever is acknowledged to be more or less contagious.

Some practitioners will not admit that fever is as infectious as small-pox. This is a position scarcely worth debating or contending. And be that as it may, I verily believe that the destruction which small-pox has occasioned, notwithstanding it has been at times great, when compared to what febrile infection has committed throughout the earth, does not bear a greater proportion than as a drop to the bucket-full.

For the truth of this I appeal to the page of universal history. What places the devastation which febrile infection has produced more than small-pox, beyond the power of exact calculation, is, that these very rarely occur oftener than once during life: whereas every patient is more liable to relapse into fever, after every succeeding attack; and he again may have it every year, or oftener, in his life, until he is cut off, when and wherever fever prevails.

Broad and important, however, as this fact has always been from the beginning, and will continue to the end of time, it has never been sufficiently attended to.

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The benefit which the community will derive from general attention to the subject, “ That febrile “ infection is an universal disease, and always more “ or less infectious, according to circumstances,” is, that every person will be on his guard against it. Means will be taken by every one to prevent it from spreading ; and professional men will exert themselves to destroy it, or to render it milder, whenever it occurs.

The great stumbling-block (theoretic doctrines of genera and species of fever) in the way of young practitioners, and of medical improvement, will be removed. That they have been stumbling-blocks, I appeal to the candid practitioners. Let them declare with what uneasiness of mind, with what anxious solicitude they have approached fever patients, at their commencing practice—let them declare the long catalogue of fevers they were taught to expect to meet in practice, and the peculiar method of treatment adapted to each ; to all the genera and species of intermittents ; remittents ; jail ; hospital ; ship ; petechial ; spotted ; scarlet ; putrid ; malignant ; and pestilential—God defend us from such a catalogue—and let them declare if their uneasiness and solicitude did not proceed chiefly from apprehension lest they should not be able to discover the species of fever, without which they could not adapt the cure : and whether typhus, the most generally received appellation of fever, until

until lately, has materially assisted them? It is no less indefinite than the other terms, which have answered no purpose but to perplex and mislead.

These stumbling blocks being removed, and the simple yet comprehensive title Febrile Infection, being substituted in their stead, the most timid practitioner can at all times meet the disease with confidence—that if the infection is virulent, he can render it milder, and even destroy it gradually by proper means—that however violent the symptoms are, he has no longer necessity to pore over ancient or modern writers, to find out to what genus or species of fever the case belongs—that the symptoms solely depend on the patient's constitution, and therefore in the treatment of the sick, that he has only the general principle pointed out in the sequel to adhere to, and only to join occasionally such other medicines, with the invigorating plan, as he thinks best suited to the present symptoms and case.

If the practitioner is careful to attend to the diagnostic symptoms already stated; to the sick in their several situations; to the circumstances when and in what manner they were taken ill; and to the several minute descriptions of fever, as it appeared to the author in different parts of the world, stated in the two preceding volumes, and also to the following description of febrile infection, which is a summary of the preceding ones, I think it scarcely possible

possible for him not to be able to distinguish it, should the following circumstances also be taken into consideration.

Should one or more of a family, school, college, religious seminary, university, regiment, ship's company, or of any other society whatever, complain of febrile symptoms*, it will be necessary to enquire, with the utmost diligence, whether any of the family or society have been lately ill? whether they have been in company with any sick? or in any part where sick have been? or have lain in the beds where ailing people have lain? or have worn their clothes, or bed-clothes? or have been in company with people who have visited or lain with sick, or worn their clothes? And should the answers be in the affirmative, there will be no room to doubt but they are infected, and suitable methods to render the infection as mild as possible, and to prevent it from spreading, cannot be too speedily adopted. But should the answers be in the negative, the constitution of the sick, their employments, their manner of living, whether temperate or intemperate, with every other circumstance about them, are to be diligently enquired into. The climate, the season, and weather, are also to be taken into consideration. All these being well weighed, the prac-

* Whether slight or severe, the precaution is equally necessary and proper.

fritioner is next to pay particular attention to the symptoms; and,

First, To the state of the countenance; because, to the experienced and discerning practitioner, it exhibits the most certain diagnostic and *invariable pathognomic* symptom of infection, and the degree of its virulence, which becomes almost hourly more and more obvious in it; and the more obviously it appears diseased, the greater is the danger *. In it, there is a *je ne sais quoi*, expressing more disease than the patient generally complains of, or than words can convey. To say it is greatly dejected, or depressed, is not enough. 'Tis *inexpressibly diseased*, as every person well acquainted with febrile infection knows, and which nothing but experience will thoroughly teach; all the other diagnostic symptoms accompanying it, show more debility than so short illness justifies.

These are the symptoms which the sick mention chiefly at first, and according to their vehemence or mildness, generally show the degree of virulence of the infection. It is true many other symptoms often accompany fever from its commencement, but not so generally as those I have mentioned. So that whenever sick; in any situation whatever, complain of being seized with rigors, or chilliness;

* Dr. Lind, of Haslar, has made the same remarks on the countenance.

or with alternate chills and heats; accompanied with head-ach, heaviness, or confusion of the head; with sickness at stomach, or with retching; with universal pains, *especially in their backs*; and with more or less debility; and if their countenances are at the same time obviously diseased, whatever other symptoms accompany these, I can, from experience, assure the reader that a most virulent infection is present.

If, in the course of the fever, it is further observed that they who attend, or have any communication with the sick, are seized with similar symptoms; and if the sick, after arriving at a convalescent state, are not only long in recovering perfectly, but from the slightest cause are found liable to relapse, they must be little acquainted with fever, or have very little discernment, who doubt of there being a most virulent infection present.

But it may be said that these symptoms, the state of the countenance excepted, are similar to those which introduce the eruptive fever of small-pox and measles *. Yet, though they are not exactly similar, were this a generally received opinion, it would fully answer my present purpose; because, if they are known and acknowledged to be concomitants of infectious diseases, they would soon know whether

* Though there is a difference, it is difficult to draw the line of distinction between them.

it was febrile infection, small-pox, or measles; and would exert themselves to render the future infectious disease as mild as circumstances would admit—a matter of great importance to the sick, as well as to society in general.

CHAPTER V.

On the remote and proximate Causes of Febrile Infection.

By remote causes of fever, I understand all the incidental circumstances which act upon the constitution, so as to effect, sooner or later, such a change or predisposition thereof, as to render it liable to be easily attacked with fever*, or to be easily infected by febrile contagion.

Authors have been very minute on this part of the subject; and when fever † has been said to be epidemic, they have considered *atmospheric effluvia*, or infectious particles floating in the air, as the remote, and even as the proximate causes of it. But to this opinion I cannot subscribe, because I believe it is not only often ill-founded, but because a more obvious and philosophical reason may be assigned for it, as in 1782, when the influenza was epidemic ‡.

* Febrile infection is meant.

† I speak in compliance with custom.

‡ See vol. ii. p. 407—8.

And the reason appears to me to be, that the inhabitants of any country or town are exposed nearly, if not equally, to the same debilitating powers of uncommon heat; or cold; or drought; or wet; or sudden changes of weather, which undoubtedly have great influence on the animal œconomy, as well as on the animal, vegetable, and aqueous parts of our diet; and are sufficient to predispose us to be infected by each other, which naturally happens from contagion, whenever fever occurs in any family; without supposing atmospheric or aërial infectious miasmata, or effluvia, to be the cause.

Marsh effluvia have likewise been considered as the remote cause of fevers, which, unless in the sense I have hereafter explained, I cannot admit; because, by marsh effluvia is generally meant noxious particles, exhaled from marshes, and when applied to the body, are supposed capable of producing the same effects on the constitution as *atmospheric effluvia*. But though there is something peculiarly noxious in unventilated air, as every person allows, and consequently in the air and vapour suspended within a certain distance of the horizontal plane of marshes, overhung by shrubs, reeds, sedges, and other aquatics under which both animal and vegetable matters die and putrify, I do not believe that this vapour is ever carried to any distance in its noxious state; or that it ever is the

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cause of fever, except in such instances as happened while I was on board the Weasel, in Gambia river, and on board the Rainbow, at Sierra Leon, and at St. Thomas's, where people were immersed in noxious stagnant air when walking in them *.

Yet it will be said, that people who live near to marshes and swamps, are sickly and afflicted with fevers; and how is this to be otherwise accounted for? The reason, I conceive, is owing chiefly, if not entirely, to the coldness and moistness of the air suspended over such marshy or watery situations, and blown upon the inhabitants by certain winds †, which act on the human body as a cold aërial vapour-bath, if I may be allowed the expression; and from its being then constantly inhaled, during respiration, into the lungs; which I think are sufficient to debilitate the system, and to induce fever, without admitting the assistance of miasmata, marsh effluvia, or infectious matter, being the cause. This opinion is strongly corroborated by the following facts:

1. Air suspended over marshy or swampy ground, whether aquatics cover it or not, is certainly both moister and colder than the air of the adjoining country.

2. The effect of air colder and moister than we are accustomed to live in, applied to the human

* See the passages already quoted, and others, in vols. i. and ii.

† Which place the inhabitants directly to the leeward.

body for any time, is universally known to produce fever in contiguous dwellings.

3. A damp room ; a damp bed ; or damp apparel, seldom fail to induce fever ; yet no one ever supposed there were any miasmata, or noxious effluvia, in either of these, or that any thing but cold and moisture was the cause of the fever.

4. That people living near marshes or morasses, are therefore more subject to fever at one time of the year than another, is owing to the cold moist air being blown upon them by the prevailing winds, as before-mentioned : and the hotter the weather is, the more sensibly the marsh air is perceived, and is known to affect them, because then it is much colder than the circumambient air.

Respecting the cause of fever prevailing amongst those who live near marshy or swampy grounds in hot climates, I entertain the same opinion ; that is, though I admit that exhalations extremely offensive are raised in those grounds, by periodical heavy rains, after they have been long dried up by the sun, yet I do not imagine that the noisome exhalations are carried to the neighbouring inhabitants in a state sufficiently noxious to induce fever ; but that this proceeds from the cold moist air blown upon them in the same way, and producing the same effect, as in cold climates.

The influence of the moon on the constitution is considered by some as a powerful, remote, and
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sometimes proximate cause of fever. I have therefore been at pains to satisfy the curious in their enquiries into this matter, by attending throughout my meteorological observations for many years, to the moon's age, where they will find full information on this subject. But for my own part, I neither am an advocate for nor against this doctrine. But it never struck me, that under my own method of treatment it produced any influence on the patient; so that I really do not think it of sufficient consequence to examine.

Marsh effluvia *, when the body is immersed in it as I have mentioned, becomes both a remote and a proximate cause.

Cold and moisture † are very frequently remote and proximate causes, in any climate.

Extraordinary heat and moisture ‡ are likewise, especially in hot climates, frequent causes of febrile infection.

But the most general, the most powerful, and the most destructive remote and proximate causes of this direful disease, are human effluvia in jails ||, hospitals §, camps ¶, and ships **, or, in a word, *infection*.

But, besides these great sources of febrile infection, there are many other remote and proximate

* See vols. i. and ii. † Ibid. ‡ Ibid. § Ibid.

|| Ibid. ¶ Ibid. ** Ibid.

causes. Fear, when fever is prevalent, is observed to operate so very powerfully on those who are contiguous to the sick, as often to induce fever immediately; and to become both remote and proximate cause at once.

Intemperance in eating and drinking; excessive fatigue of mind or body, and more especially of both; the immoderate use of venery; intense application of the mind to business; great indolence, or slothfulness; immoderate indulgence in sleeping, or in watching; neglect of, or improper apparel; exposing the body to unusual cold, heat, wet, or drought; or being exposed to sudden changes of these, and violent passion, all prove, in a greater or less degree, according to circumstances, remote or proximate causes of fever.

A *coup-de-soleil* brings on fever immediately. Sudden or violent agitations of mind, whether by joy or by grief, have frequently proved remote or proximate causes of fever.

Any external injury done to, or operation performed on, the body, often prove remote, as well as proximate causes of fever, instead of symptomatic fever only.

In a predisposed constitution, the slightest incident, even the scratch of a pin, will induce fever.

Between remote and proximate causes of fever, it is impossible to draw the line; for what proves but a remote cause of fever in many cases, proves,
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in many others, a proximate cause; and what proves so at one time to a person, will not prove so at another.

But whatever has a tendency to debilitate the system, may become the remote or proximate cause of fever, according to the constitution of the patient. The predisposition, sometimes, is so gradually effected by divers causes as not to be perceived until it is far advanced; and at other times it is very obvious almost from the beginning.

CHAPTER VI.

Affections of the general System in Fever.

THE intellects are variously affected, from the slightest degree of wandering to perfect mania, for more or less time, and also with coma and pervicilium. The memory, perception, attention, and thought, are sometimes completely suspended. Great, and sometimes total indifference, unusual dulness, and uncommon quickness occur. Depression of spirits, languor, anxiety, fear, and despair, also, in various degrees, predominate.

The nervous system is more particularly affected with extreme debility, with universal or partial paralysis; with hemicrania, hemiplegia, subfultus tendinum, or convulsive twitches in different parts. They are likewise affected with laughing*, finging, unnatural voice and speech, with grumbling or muttering; and all the symptoms of hysteria.

The secretions and excretions, or natural evacuations, are also affected with preternatural colour,

* Risus Sardonicus. It is doubtful whether some of the symptoms enumerated here can in strictness be said to belong to this, or to the preceding chapter.

cōsistence, quality, abundance, diminution, or temporary suppression: the urine, stools, perspiration, and expectoration, with more or less foetor; universal pains, or soreness; and universal heat or chilliness, are complained of.

The skin is affected with different degrees of heat, dryness, and roughness; with sensation of alternate chills and heat; with chilliness; with heat; with general or partial profuse perspiration; with hot or cold, watery, greasy, or clammy sweat; with reeking moisture, and frequent alterations of these. It is covered with many eruptions, besides petechiæ, maculæ, vibices, and blotches. Sallow-ness, yellowness, footiness, and at times lividity, appear on it. Desquamation of the cuticle, and sometimes of the cutis*.

* Whether this paragraph ought in strictness to be referred to the general or particular affections, is perhaps doubtful.

CHAPTER VII.

Particular Affections of the System in Febrile Infection.

THE head, and probably the brain, is affected with sensation of general confusion, heaviness, lightness, and giddiness *, and sometimes with universal or partial aching or pain.

The countenance, besides presenting the generally, yet inexpressibly morbid, inanimate, or blank appearance, is either flushed at times, or fallow, or icteric, or bloated, or partially swelled; or seems greasy, footy, or squalid.

The eyes are affected with sensation of fire darting from them; with a livid circle around them; with diminution of sight, even to blindness in the paroxysm; with listlessness, with dilatation of the pupils; with sinking or retracting in their orbits; with lifeless and unmeaning appearance; with effusion of tears,—particularly at the external canthi, which become dirty, and acquire the con-

* Whether some of these are to be referred to general or topical affection, also admits of doubt.

sistence of pus; and sometimes they are very much bloodshot.

The ears are affected with deafness; with discharge, without any previous sign of inflammation; with pain; with imposthume; and with *tinnitus aurium*.

The nose is affected with eruption; with distension; and collapſion of the alæ; with sharpness; paleness; coryza; offensive smell to the sick; with itching; and with hæmorrhage.

The mouth is affected *externally* with various eruptions; and with motions as if the sick were tasting something. The lips are affected with paleness; with lividity; and convulsive twitches. It is affected *internally* with aphthæ; with bitter taste; more or less dryness, causing incessant thirst; with salivation; and with fordes—covering the teeth and lips.

The tongue appears as if macerated in water, as if it had been boiled; sometimes it is enlarged, and stiff; or it is shrivelled: or covered with white mucus, gradually becoming yellowish, brown, and black. Sometimes it is husky; or chapt; or aphthous, or as if it were striped; or covered with black slime, especially in the middle or near the root; the tip and sides appear red and moist, while the middle is very much diseased; and sometimes it is so tremulous that the patient can hardly show it.

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The throat is affected with more or less appearance of inflammation, both internally and externally, accompanied with an exudation of serum, or lymph acquiring the appearance of pus; with putrid ulceration; with enlargement of the tonsils; and with parotis. The trachœa arteria is pushed violently upwards, and projected at times with muscular convulsion as if it were swelled. It is also affected with hoarseness and rattling*.

The thorax and its contents are affected with various degrees of pain resembling pleuritis; peripneumonia vera and notha; or paraphrenitis. It is also pulled upwards with more or less violence in respiration.

The lungs are affected with dyspnœa and unnatural respiration both in noise and the patient's manner; with frequent interrupted sighs; and with cough; and other affections terminating speedily in phthisis pulmonalis: especially after pneumonic affection.

The heart is affected with fluttering, palpitation, and perhaps with slight symptoms of carditis.

The diaphragm with convulsive symptoms, and others not to be ascertained exactly, nor described.

* Robert Cull, an aged man, who after contusion laboured under fever, attended with uncommon danger induced by intemperance, is the only patient whom I ever knew to escape after the appearance of this symptom.

Singultus. The stomach is affected with loss of appetite; or dyspepsy with more or less insensibility; with debility; with nausea; sickness; retching; vomiting of matter, of different appearances as to consistence and odours, with worms alive or dead; with swelling; with sensation called heart-burn; with flatulence; with eructation; indigestion; inordinate craving; preternatural appetite; sensation of great weight and oppression; and with acute pain; or with great pain; or with great tenderness, as appears from pressure about the præcordia.

The intestines are affected with constipation; relaxation; loss of tone, or with diarrhœa; with flatulent distensions; borborygmi; with griping pain, or belly-ach; with dysenteric symptoms; with sphacelus; and involuntary stools, of various colours and consistence, containing worms alive or dead, or foetid matter. The liver and its appendages * with obstructions; with preternatural enlargements, and with preternatural secretion; or with suppression; and with redundancy of bile.

The mesentery, spleen, and pancreas, are affected with obstructions: and the two latter with suppression, or preternatural discharge of their respective fluids; and with great enlargement; particularly the spleen.

* Vesica fellis; ductus cysticus; ductus hepaticus and ductus communis choledochus.

The kidneys and ureters with nephritic symptoms.

The bladder with suppression ; micturition or involuntary discharge of urine ; which sometimes smells strong and offensive.

The abdomen, externally, is affected with more or less tension ; tumefaction ; and pain which is much increased by pressure, particularly about the scrobiculus cordis.

The testicles are affected with contraction ; with tenderness and pain.

The extremities are affected with sensation of soreness ; with *wandering pains*, as the sick express themselves, and with rheumatic pains ; with unnatural position ; convulsive twitches ; and paralysis.

The pulse is affected with endless variety.

In women, the menses are variously affected—especially with different degrees of obstruction ; frequent returns ; and excess in quantity.

CHAPTER VIII.

*Experimental Inductions concerning Fever or
Febrile Infection.*

FROM what has been said in the preceding pages, it appears that the numerous doctrines on fevers have only been evanescent, and of temporary duration : and that the methods of treatment founded on these have been unsuccessful, if at least not destructive, with few exceptions, as appears in the author's comparative tables, in the two preceding volumes ; and also in Dr. Millar's comparative tables of his works.

In this predicament, it became necessary to resort to means more permanent than such unstable doctrines, to regulate practice by—the means of universal observation and experience, as I have before mentioned. Observation and experience demonstrate plainly that febrile infection is an idiopathic universal disease, because it is found to be curable every where on one general principle *only*. This fact is not confined now to the knowledge and practice of a few, as it was previous to the year 1790, when the author's Essay on Febrile Infection was

was published. Since that period, the fact, though not yet universally received, has been confirmed by the testimony and experience of many of the profession, as I have also already mentioned.

By observation and experience we have now arrived at the knowledge of several facts concerning febrile infection. We know fever is infectious ; that it is an universal, idiopathic disease ; and is curable every where upon one and the same principle only. So that these facts obviously support each other.

It would have given the author great pleasure, to have been able to add that by experience and observation he had arrived at the knowledge of discriminating between the symptoms of febrile infection, and of some other infectious diseases, at their commencement, as perfectly as in their advanced state. But when this knowledge will be attained he knows not. Nor is he more certain when it will be in the physician's power to discern accurately between the symptoms of febrile infection, and those which are only adventitious, and incidental to the climate, season and situation, which the sick are in ; or to their sex, age, and constitution ; and to their treatment in all respects, whether medical or any other.

Such are the difficulties in our way to arriving at the pathognomonic symptoms of fever. Although these symptoms are, I believe, very few ; they are nevertheless so blended and shaded with

other symptoms, as not to be discernible to human sagacity, hitherto. It is a great comfort, however, under all these difficulties, that observation and experience have enabled us to furnish such a delineation and description of fever, as to render it comprehensible and discernible by every intelligent practitioner.

When we consider that febrile infection or fever, is a disease arising from a peculiar poison, it is not to be wondered that its commencement, or first effects on the system, is so difficult to be distinguished from the morbid affections which proceed from other poisons. But though the first symptoms of fever cannot be positively distinguished from the early symptoms of other poisons acting on the system; no more than the germs of the seeds of plants which have been accidentally dropt, can be immediately known and classed by the gardener *Hortulanus*—yet the skilful medical practitioner will in the progress of fever, as well as *Hortulanus* in the progress of the growth of his plants, be soon enabled to distinguish its class, order, genus and species.

The modes by which poisons are admitted into the system are various, either by the nose or mouth in the act of inspiration; that is, by inhaling, with atmospheric air, morbid effluvia into the lungs;—by swallowing poison into the stomach in food, drink, or medicine: or by inserting it in wounds, as in
inoculation

inoculation—by the bites of venomous animals ; by friction, or by contact.

When poison is inserted in a wound as in the act of inoculation, the progress of its obvious effects on the system, can be traced from the moment of insertion to the appearance or commencement of symptomatic fever. When poison is applied by friction on any part of the body, the effects are more imperceptible, though equally certain as in the former case. Again, when poison is applied by mere contact, its effects are equally imperceptible and less certain—unless some part of the infected apparel is worn, the effects of which will almost be certain infection by absorption, and at the same time perhaps, by inhalation. But if a person is at all previously disposed to be infected—inspiring or inhaling the morbid effluvia about the sick will positively infect him instantaneously—as was my own case on board the *Weasel* and the *Blenheim*—as certainly as if he had taken poison into the stomach. But the time that elapses between the infection being communicated, and the effects being perceived is, in different subjects very different, and even in any one person, on different occasions. I speak from experience.

Twice I have been infected to my own knowledge, and both times in a very different manner ; as I have already observed. But on the other hand, I have been frequently infected without being

sensible of it at the time : so that from experience, I can venture to say, that the immediate ways and effects in which infection is communicated and perceived are very numerous.

All the knowledge, then, with which experience has yet furnished us concerning the property of fever is, *that we find it universal and infectious* ; that its first attacks and future effects on the human system, entirely depend on the present state of the system ; and that although we are able to ascertain many of the circumstances, which may and do act as remote causes of predisposing or of preparing the system for the state and condition to render it fit for being infected, yet we are ignorant what that state and condition positively is ; or what the quantities of either, severally or conjunctly, or of the number of these circumstances, requisite to accomplish that state ; and we are also ignorant of what infection consists ; further than of its being certainly a very subtle and active poison, *sui generis*.

The number of morbid infections to which the human system is naturally liable without the poisons being actually inserted into wounds ; or applied to the skin by friction ; or inhaled into the lungs by inspiration ; are providentially not numerous. For if they were numerous, we should be the more puzzled at their commencement to distinguish them ; as it is only then that the difficulty occurs. And again,

again, it is providential that this difficulty to distinguish febrile infection rarely occurs. It occurs only in accidental cases of febrile infection; at a time when it is not looked for nor expected. This sometimes has happened on board of ships, in camps, in garrisons, in hospitals, in schools, and in other situations, without its ever being suspected. But after a few cases have occurred, the practitioner is no longer at a loss to distinguish and to know the disease.

Another remarkable circumstance concerning the morbid infectious diseases is, that some of them occur naturally in very different states of the system, to what others do. Some of them occur when the system is in a state of *isthenia*, and others occur when it is in a state of *asthenia*. This renders the distinction by the practitioner the more necessary and important, for the regulation of his practice. If the state of the system were the same at the commencement of all infectious diseases, the immediate distinction between the diseases would be of little importance, but it is quite the reverse, as daily appears.

So far then we proceed on the solid ground of observation and experience, but no further. What the essential properties of febrile infection are, we are as ignorant of as we are of the elements.

We only, by observation and experience, know the effects of febrile infection on the constitution, as
proceeding

proceeding from an active poison, that they are numerous, and various in different subjects. But they all manifest a certain derangement in the mental and corporeal functions, producing a series of symptoms according to the constitution of the patient, and of the sex, age, manner of treatment, season, climate, and other circumstances connected with the sick.

Whether this derangement is greater and more obvious in the mental, than in the corporeal functions, depends, therefore, on a state or condition of the system, which we only know by the symptoms which follow. But whichever of the two happens to be the first affected, or the most affected of the two by the change from the healthy to the morbid state; it strikes me the first effect of the poison is to induce the derangement, by debilitating the general system, so as obviously to affect all the salutary functions of the mind and body. This being most certainly the case, it follows, as we daily see, that a sensation of debility or weakness is the first morbid symptom noticed by the patient himself, if he has sagacity enough to attend to his own feelings and sensations.

How the poison of febrile infection accomplishes this diminution or debility of the *vis vitæ*, and interrupts the equilibrium of the vital energy, by inducing a morbid affection and change of the system, which, if allowed to take its course, will probably terminate

terminate in the total destruction of the system, which is the physician's duty to prevent; we know not, and will hazard no opinion concerning it.

What the *vis vitæ*, or the *vital energy*, or the *equilibrium*, on which the healthful state of the system depends, we know no more than we do of the essence of any of the productions of nature. But all human beings, from infancy to old age, soon make known their sensibility of the change from a healthy to a morbid state. Neither the old terms of irritability and irritation; nor the new terms of excitability and excitement, lend us any assistance to extricate us out of the mysterious difficulty; nor to throw the least shade of light on the subject. The gloomy labyrinth still remains inexplicable. Every person, however, who possesses his reason, although he cannot explain on what health depends, *à priori*, is competent to his own comprehension of being in good health, when he is so; and if he were asked how he knew he was so, would answer, By his eating, drinking, evacuating, sleeping, and enjoying all the mental and corporeal powers he had hitherto enjoyed, without any pain or uneasiness. While the professional man would answer, that the person who is in the enjoyment of the non-naturals, and of the full exercise of the mental and corporeal functions, is in perfect health, according to human reasoning.

The first effect, I say, of febrile infection on
the

the system, obvious to our comprehension, is more or less of debility; which deranges the mental and corporeal functions in a ratio with the idiosyncrasy of the patient, however he may be circumstanced or situated when he is first infected:

That febrile infection then has been and will continue to be the same idiopathic disease in all ages, seasons, and climates, there can be no reason to doubt; because we know from experience that it is universally cured upon one and the same principle only. This principle, when we come to the treatment of febrile infection, will appear to the reader, from the means I have employed and recommended for that purpose, more clearly than any reasoning can render it.

All this explanation of my own ideas concerning febrile infection, may be very unsatisfactory to the ingenious reasoner, who, notwithstanding the fate of the old doctrines, is perhaps eager to possess a new doctrine of fever—the formation of which I shall not undertake.

The old nosological doctrines of genera and species of fever, met with in authors, which have been fruitlessly attempted for so many ages to be established, are found to be at variance with observation and experience, appearing notoriously therefrom void of real foundation, and to be fallacious in practice. Consequently, practice deduced from or regulated by these doctrines, was always unsuccessful

cessful. These facts can neither be controverted nor denied by the most enthusiastical admirers, or most powerful advocates of those doctrines.

The numerous and very different appearances of fever, from the most simple and distinct intermittent, to the most continued type we meet with; with all their diversity of symptoms, I believe, are only modifications of febrile infection; and these modifications depend on the constitutions of the sick, and the circumstances they are connected with; and not upon any difference in the nature of the infection. And although, from many causes, the infection may appear more virulent in some cases than in others, I conceive this apparent difference is to be wholly ascribed to the constitutions and circumstances connected therewith about the sick before mentioned,

The distinction of the fever by the types of *intermittent*, *remittent*, and *continued*, unless they are, especially the two latter, considered as obstacles in the way of proper treatment, may be very convenient and useful. But if, according to the old doctrines, we are to be restrained by these types from energetic practice, where it is most essentially necessary, they are made an improper use of. All the other appellations of fever I conceive to be useless, if not hurtful in practice.

I am, nevertheless, aware that objections may be raised

raised by others to my opinion. Because it may be thought appellations to discriminate fevers will be requisite. For it has been said, “appellations of the fever are necessary to direct us in practice.”—Granted, that appellations to direct us *properly* are wanting, but not to mislead us. “Besides,” it is again further said, “that there is in nature a real foundation for various appellations and distinctions of fever.” When they define all their nosological terms from their own observations and experience, and when their successful practice shall fully confirm their definitions, terms, and doctrines—I shall readily become a convert to their opinions, but not before. Appellations or names, without being definitely explained or expressed, can answer no other purpose than to puzzle and perplex. The ideas of those in use can never be understood as the signs of those they were intended to express.

In like manner the symptoms of fever which are so numerous and diversified, when they are erroneously applied as distinguishing features of different species of fever, mislead young practitioners; because they are, at least many of them, incidental, and depend on the constitution, the age, sex, season, climate, or the circumstances arising from and connected with the situation, condition, and medical treatment of the sick, and do not arise from

from any specific difference of fever: which is universally, and under every appearance of type or symptom, the same disease in its various modifications.

In all my observations and experience, I have never met with two cases perfectly similar; and I appeal to every chaste and accurate observer, if, in the course of his observation and experience, he ever saw two cases of fever perfectly similar. What end or purpose could possibly be obtained, by applying to every individual case a specific denomination, then, but to bewilder and confuse young practitioners? Must a distinct method of treatment be discovered for every individual case? The physician finds sufficient employment for all his consideration and attention, to adapt his treatment to the various constitutions, circumstances, and situations of the sick, without being obliged to find out a different principle to manage every individual case by; which would positively be requisite, were it absolutely proper to diversify fever according to its symptoms; if in the nature of fever such a variety of species actually existed, which is flatly contradicted by experience.

But although febrile infection is always more or less contagious, it does not follow that it may not originate from other causes besides contagion: for, on the contrary, instances of fever originating from very insignificant causes; i. e. a simple surgical operation;

operation; a slight contusion; or a broken skin*, as it is vulgarly called, terminating in the most virulent degree of infection, daily occur, in constitutions previously disposed, especially in the confined air of an hospital.

On the other hand, the energy which maintains the equilibrium, or healthful state of the general system, is so perfectly complete in other constitutions, that they are sometimes exposed to all the remote and proximate causes of fever; to the most violent external injuries; to loss of extremities; and to the different sources of contagion itself, with impunity. Even the insertion of infectious matter into the system occasions no more, in such healthful constitutions, than what is called symptomatic fever, which is understood to be necessary to the eruption and suppuration of varioli, or to the digestion of wounds.

The manifest difference in small-pox affords a happy illustration of this part of the subject; because it is now generally allowed, that whether the eruption is distinct or confluent, entirely depends on the constitution and management of the patients, and not upon any specific difference of small-pox virus, or poison. If the diathesis of the sick hap-

* Those instances shew that no case of fever is to be neglected, and that the constitution of the sick is always to be regarded, let the cause of fever be ever so trifling.

pened to be sthenic, and the inflammation of any of the vital organs to ensue, the consequence might very soon be fatal, unless prevented by antiphlogistic treatment; but when properly managed, no more fever happens after inoculation than is necessary to complete the eruption and suppuration, and desquamation, of benign and distinct pustules. If the diathesis, on the contrary, be asthenic, the patients, unless the energy or *vis vitæ* be properly reinvigorated and supported, will sink under febrile infection, which accompanies variolæ.

The great benefit, therefore, derived from inoculation, is in regulating and restoring the equilibrium of the system, whether superabundant or deficient. When this is neglected, as in the natural small-pox, how various are the appearances which they assume! Hence the various names of ichorous, chrystalline, black warty, &c. as if these were so many real species of variolous infection.

In cases of asthenic small-pox, then, it is evident that two very distinct infections may and often do exist; and that subjects who never had small-pox may contract the variolous infection; while people who have had small-pox, may contract febrile infection. The same remarks will apply to measles. Though small-pox, when they break out in the natural way, are generally more active and destructive than febrile infection; still, this is the greatest foe and destroyer of the human race; because it is

in a manner domestic, or endemial, everywhere; while variolæ are only rare visitors, and infect a man but once in his life.

On the subject of inoculation I must observe, that, notwithstanding its great utility to mankind, I should not be surpris'd, from the number of ignorant itinerants who now undertake to inoculate, if it were to fall into disrepute *.

In contemplating the subject of the doctrine of febrile infection, I am naturally led to reflect, that many diseases to which mankind is subject, are consequences of our forefathers' and of our own indiscretion and intemperance; and the more I contemplate the stupendous subject, "the *energy*" "which maintains our healthful state," as an emanation of supreme wisdom and goodness, I think the reader must be led with me to humility and contrition for the depravity of the human race, in having marred and too frequently ruined this inestimable blessing; in having rendered ourselves subject to such diversity of diseases; and in having entailed them and their consequences on posterity, by our own indiscretion. Far from considering diseases always, therefore, as many do, *divine judgments for our sins*, though those would only have been manifestations of divine justice, I view them as natural

* The author here repeats what he said on the subject in 1790.

consequences of health ruined, or injured by our own folly and indiscretion. As I would impute a complete time-piece's becoming irregular to the person's mismanagement entrusted with the care of it; so in like manner I generally consider bad health as the consequence of the sick's mismanagement or negligence in preserving, and in having trifled away, good health. To the most intelligent and devout it has ever been matter of astonishment and adoration, that we are so wisely formed and fashioned, that our system should so long withstand the many shocks to which our imprudence and indiscretion expose it. Led by this reasoning to contemplate the original state of moral perfection implanted in us, or the divine image which we have degraded, and in a great measure defaced, we ought, with self-conviction and real contrition, frequently to ascribe the difference between our original and present state wholly to ourselves. From these reflections, I trust, nothing derogatory to morality and revealed religion can be inferred.

When such instances as are above-mentioned occur, practitioners have been erroneously induced to say, that "the fever of which they are treating" was not infectious." But does not the same thing often happen to those who, though contiguous to, and attending upon people ill of small-pox, are never taken ill, nor can be infected, even by
1 2 inoculation.

inoculation, when there is no predisposition in their systems to be infected? Yet does any person doubt but that small-pox are always infectious?

The same remarks will apply to measles.

By the way, in 1789-90, when I expressed my concern, in the former edition of this part of my work, that inoculation should have fallen into the hands of so many ignorant persons as it had; I little thought that the very circumstance I was lamenting would turn out, as it certainly has, to be a material cause of the easy conquest over the practice of inoculation, which vaccination has since obtained: but,

Notwithstanding, I say, the havoc small-pox has sometimes made, when they broke out in the natural way, yet they could not be considered so destructive as fever, which renews its attacks upon the same subjects times without number.

CHAPTER IX.

Fever, or Febrile Infection, described.

TO every intelligent reader it will, I make no doubt, readily occur how difficult the task of describing febrile infection, comprehending the vast extended scope which I have assigned it, must of necessity be—A task embarrassed with insurmountable difficulties, and accompanied with such endless variety and combination of circumstances, that no two cases will ever be found perfectly similar, at least not more similar than any two men are *. But though this variety should have prevented the attempt to divide fever into genera and species, as a fruitless labour, it has, on the contrary, given origin thereto—An attempt equally absurd with the philosophers, who should undertake to divide

* This difference in the appearances of fever, instead of directing to the true cause, the difference of constitutions, has totally misled practitioners, who have attributed these appearances to specific differences of fever, and laid the foundation for the most vague and unsuccessful practice.

mankind into as many genera and species as there are different complexions, statures, sizes, forms, features, and other distinguishing marks among men. But, great as those varieties are, still the whole human race is only one genus, man. In like manner febrile infection, though trivially differing in every two patients, and even in the same patient at different times, throughout the whole earth it is still but one genus of disease; and, I am thoroughly satisfied, ever has been the same idiopathic disease. A description, therefore, which would apply to every appearance, would be as impossible to form, as it would be for a painter to describe all the lineaments, complexions, statures, forms, proportions, and other distinguishing marks of the human race, in one picture of an individual. But as the picture might clearly represent the form and human likeness, though not an accurate picture of any one person, in like manner, with real diffidence, I shall describe the general and prominent features of febrile infection, though the description may not strictly apply to any one case.

The first appearance of febrile infection is extremely various; for, besides complaining in the manner stated in the diagnostic symptoms before mentioned *, patients will sometimes droop for

* See General Remarks, p. 39.

weeks before they complain;* and after its commencing, perhaps, will crawl on for several weeks, or even longer †, before it terminates favourably; and though they never were very ill, it leaves them, unless they are well managed, liable to frequent relapses, or a prey to scurvy or consumption, at last.

This nervous state or affection is particularly marked by the extremely agitated state of the whole system. The tongue is so tremulous, that it is with much difficulty they can show it; and the hands are so feeble and paralytic, that they are unable to extend them; which renders the examination of a frequent weak pulse, perhaps accompanied with subfultus tendinum, sooner or later, very difficult.

Or it is observed by strong and frequent tremors; by greater degrees of general or partial paralysis; extreme debility; total indifference about every thing; confusion of the head; and gradual privation of the intellects and senses; preternatural penetration and quickness; by wandering, and loss of memory and perception; and by extreme anx-

* As mentioned in the general remarks.

† This is the great outline of the slow nervous fever, as authors term it, and can only be intelligible to the experienced.

iety, apprehension, and despondency, stupor, or coma.

The tongue, which at first was of its natural appearance, gradually becomes whitish, foul, and acquiring a blackish slime on its middle; or of a shining red, that changes to the pomegranate appearance. A bitter taste is complained of; and, though the patients are thirsty at times, no drink pleases.

The state of the pulse is variable, being easily affected either by drink, medicines, motion, or surprise which any thing, almost, occasions.

The natural evacuations are either much diminished or profuse. When profuse, they only increase the general debility, and hasten the fatal catastrophe. Sometimes they seem insensible to cold or heat, and at other times the reverse. They often complain of great heat, when the skin is temperate, and of cold, when the body is really hot. They frequently mention that the palms of their hands, and soles of their feet, are hot; and their countenances at times are flushed. The little heat sometimes perceptible on the skin, impresses the common disagreeable sensation * on the fingers in feeling the pulse. Various eruptions appear about the mouth and nose, and on the skin; and the cuticle—even the cutis at times, especially of the hands and feet—peels off. The urine often changes its appearance, but deposits little or no sediment.

* The calor mordens.

Sometimes

Sometimes it runs from them, as well as the fæces, insensibly. When the case is about to end fatally, the symptoms gradually grow worse until the fatal period.

2. On the contrary, some are seized with symptoms so violent, as to resemble diseases proceeding from inflammatory diathesis—especially pleuritis, which,* however, abate as the remission approaches, and again increase with the paroxysm. Remissions, though irregular, are yet evident in the beginning of febrile infection under this appearance.

But notwithstanding this seeming violence of the symptoms, unless the sick have received former hurts about the thorax; or have been subject to cough, from pulmonic or pleuritic affection; if they are properly managed without letting blood, or being debilitated by antiphlogistic treatment, little danger is to be apprehended. If they have been managed otherwise, and if the infection is virulent, the case soon becomes fatal, or terminates speedily in phthisis pulmonalis; which is equally fatal.—I have never met with a case wherein there was not some alteration within twenty-four hours.—

Those spurious symptoms of inflammation frequently appear with so much violence, that systematic writers sometimes have very unwarily considered fever, *causæ* or burning fever, i. e. fever arising

* These pains either proceed from erysipelatous or muscular affection.

ing from *sthenia* or an inflammatory diathesis. That symptomatic fever accompanies inflammatory diathesis is certain ; but then it is *always*, I believe, accompanied with topical affection, as in peripneumonia, pleuritis, &c. which is quite different from febrile infection. And though fever does frequently commence with *apparent* violence, yet, to the experienced and attentive practitioner, symptoms of debility will be so obvious as not to leave him long in doubt what the disease is *.

4. It also is often ushered in with a train of catarrhus, and anginous symptoms ; or with the symptoms of cynanche.

5. Besides commencing under those opposite extremes, it assumes all the different intermediate degrees of attack ; with depression of spirits ; with fear, and despondency ; with listlessness ; lassitude ; languor ; extreme coldness ; faintness ; syncope, and epilepsy.

Or it commences with bitter taste in the mouth ; with oppression, pain and fulness about the præcordia—especially before porraceous, or bilious vomiting and purging, considered by an eminent writer, cholera morbus.

* An instance applicable to this remark lately happened in this neighbourhood, which, by the indiscretion of idle people, has been magnified to an *alarm* : while the medical department concerned merited commendation for their great attention and skill in managing the sick.

It also commences with dysentery ; and diarrhœa ; with dry belly-ach and suppression of urine ; with the head much confused, or affected with pain in different parts ; with giddiness or deafness ; with hæmorrhage at the nose ; tooth-ach ; with relaxation of the uvula and various degrees of sore or ulcerated throat ; with sensation of swelling about the præcordia, and of the abdomen.

Sometimes, after chilliness, it commences with anxiety and uneasiness about the thorax ; with pain of the sides shooting down into the groin or thigh ; with pains in both ilia which descend to the feet ; with pain from the crown of the head to the sole of the foot of one side ; with pain of the right shoulder, and of the hams ; with great heat and perspiration, without any previous shivering or coldness having been observed ; with great variation of the heat of the skin, of thirst, and of the pulse.

In some cases more ; and in others, fewer of those symptoms appear at the commencement of the fever, or so soon after it, that they may properly be ranked amongst the introductory symptoms, or first symptoms of attack.

6. Symptoms of putridity * or of dissolution sometimes appear from the beginning, which show that the general system has been in a very morbid state

* I speak here in compliance with custom.

for sometime before. Generally speaking, however, those symptoms do not appear until the advanced state of febrile infection. Whenever they do appear, the factor about the sick renders it fully as disagreeable as it becomes dangerous to visit such patients. Sometimes they are very sensible of this themselves; and at other times, they appear to be otherwise, from their indiscretion in breathing full in the practitioner's face.

7. I have seen an eruption resembling measles, with very offensive breath at the beginning of fever: I have known it commence with bubo; and I have likewise known patients to be affected with lethargic symptoms* at its commencement.

8. But the most deceitful and fatal appearance is that which sometimes occurs in hot climates; when the energy of life, without one symptom occurring to alarm either patient or the generality of practitioners, quickly hastens from health to extinction. Yellowness †, however, by which some late authors have thought fit to take great pains to characterize fever, is not peculiar to it: for in the diseased countenance, instead of the icteric, may be discerned the very squalid, lowering, blank, and inanimate appearance, which is often observed to precede death. Such patients I have thought, are either

* Which I consider symptoms of dissolution.

† Several have called it the yellow Fever.

incapable or afraid to explain their own feelings : but no words of the physician can convey to the reader an adequate idea of their countenance. Experience only can acquire the knowledge of it.

9. But generally it commences with the diagnostic symptoms, to which the different types and other appearances, as the fever advances, occur according to circumstances. The countenance daily becomes more diseased, and universal debility is complained of, and rapidly increases ; but the stomach and head seem to be more particularly affected. The bowels seldom retain their natural state, but are either violently pained ; costive ; or extremely relaxed ; or affected with dysentery. Whether the sick complain or not, from their frequent sighing and inquietude, they appear to be extremely anxious and uncomfortable : their morbid intellectual powers seem to be wholly employed in brooding over their hopeless situation, which they nevertheless, sometimes, studiously endeavour to conceal. At other times they reveal their anxiety, and complain of great fulness, oppression and pain, about the præcordia ; or in different parts of the abdomen, especially on being pressed ever so gently : distension and borborygmi are likewise observed in the abdomen.

Their pains, which often resemble rheumatism or gout, are more violent during the paroxysms and exacerbations ;

exacerbations; and these again are often preceded by local pains.

The countenances of some are often observed to vary. Sometimes they are dry and flushed; or they appear fallow, tawny, icteric, squalid; or are covered with more or less of watery, or clammy, or hot, or cold greasy sweat; or they assume the hippocratic appearance. The alæ of the nostrils are sometimes much distended during expiration, and collapsed every inspiration; convulsive twitches are then observed about the mouth.

The tongue, from being at first very little discoloured, sometimes rapidly, but oftener gradually puts on a more diseased appearance; becoming whitish, or foul, or furred, or dry and shining, or brown, or husky, or black, and more or less chapt: or it appears very little affected round the edge, or partially diseased as if streaked; or seems to have been boiled, or macerated in boiling water; or shrivelled, or enlarged, which are dreadful symptoms.

The teeth become dry, and, like the lips, are covered with fordes, which, though cleansed off with difficulty, is soon replaced: the throat too is frequently much affected; besides with ulcers.

Every degree of delirium, from an unusual absence and wandering to perfect mania, of various duration, may be observed sooner or later; and also *risus sardonius*, though rarely.

The

The skin in like manner is variously affected; and eruptions of very different aspects, besides petechiæ, vibices, and blotches, appear. Various degrees of heat; or dryness; or of perspiration, partial or universal; and very different perspirations, as well as on the face, are observed.

When medicines have a proper effect, the case terminates favourably, though often very slowly, without the symptoms attaining their acme, or worst state, and without any obvious crisis*.

Otherwise they continue, with frequent deceitful cessations, to increase until the fatal period, which happens indifferently from the 2d to the 38th day of their illness. But if proper medicines are prescribed liberally and early in the disease; it very seldom attains a violent acme; and terminates favourably in a much shorter time.

For the benefit of young practitioners, I have, in the preceding description, been more studious to mark the different appearances of the commencement, than of the advanced periods of febrile infection; because it is of most importance to assist them at the commencement of a disease, to form their judgment of it, and their plan of treatment: which ought to be immediately put in force and persevered in without interruption, until the energy of life is

* I speak here in compliance with custom.

sufficiently restored to subdue or resist the fever; or until febrile infection and its effects in the system are neutralised (if I may be allowed the expression) with the medicines and their coadjutants. Because one hour lost at the commencement of fever, is often not to be redeemed. Besides, in the advanced periods, many of the introductory or commencing appearances are effaced; and a greater similarity among cases takes place; but when the practitioner sees the disease in its far advanced state, it is frequently too late for medicines to relieve them. Nor can any doubt remain on his mind what the disease is.

CHAPTER X.

Symptoms in the Cases which terminated fatally under my own Observation, for Thirty Years, in various Regions of three Quarters of the World.

COSTIVENESS; borborygmi; palpitation of the heart; and colliquative sweats—in Gray's case, 1759*.

Violent affection of the throat; hoarseness; and livid blotches—in Bridgeman's case, 1761.

Colliquative diarrhœa, succeeded by deliriums, subsultus tendinum, and black tongue, the 10th of the fever; and stupor the 12th, terminated in phthisis pulmonalis—in Robethon's case†.

Singultus increased; and violent retching (induced by bloodletting for dry belly-ach as was thought) succeeded by bloody stools and vomiting black matter, the 7th day of his relapse, were fatal the 8th—in Watson's case, 1766‡.

Inability to express their complaints, in any other way than that "*they do not feel themselves clever,*" though they are still going about, and appear to

* See vol. i. p. 18, 21. † Ibidem, p. 23. ‡ Ibidem, p. 39.

the inexperienced to have little ailing them, notwithstanding the countenance on accurate examination appears extremely diseased with fear, anxiety, inquietude, and with despondency ; in the meantime accompanied with icteric appearance, or fallowness—terminated fatally in several cases on board of the *Preston*, 1768* ; and on board the *Weasel* in 1769†.

An intermittent changing—with general tremors, convulsions, loss of speech, and cold extremities—to a remittent type, with a languid irregular pulse the 3d day ; the tongue from being very foul becoming brown the 4th ; a comatose dispoſite continuing the 5th, 6th, and 7th, relapsing the 10th, after being relieved the 8th and 9th ; convulsions returning the 11th, and the coma still continuing, were fatal the 25th—in Lee's case, 1769†.

Obstinate costiveness ; the matter vomited and stools staining like an infusion of saffron ; hæmorrhage from mouth and nose ; bloody urine ; purple blotches, rising like the stinging of nettles ; large swelling of one side of the neck and face, of the ecchymosis or livid appearance ; the tongue brown and rough with smacking as if tasting something ; wildness of the countenance ; great apprehension of dying ; despondency ; universal coldness, and clammy sweats ; muttering, or murmuring inarticulately ;

* Vol. i. p. 42. † Ibidem, p. 60, 70. ‡ Page 60.

and syncope, were mortal on board the *Weasel*, 1769*

Extreme dyspnœa; pulse rather hard, full, quick, and irregular; palpitation of the heart; depression; with great sense of debility; insatiable thirst when the tongue had nearly its natural appearance; great inquietude the 2d; the pulse sinking after losing a few ounces of blood; the thirst continuing with increased depression and debility the 3d and 4th, were fatal the 5th day—in Flower's case, 1770†.

Debility, faintness, oppression at and often laying the hand on the præcordia; with cough on the 4th; great anxiety, comatose disposition, and a small irregular pulse the 5th—after two small bleedings; coma continuing, and lying always on the back with the eyes half shut, on the 6th; changing posture at times without finding any alleviation of the symptoms thereby; and two copious green foetid stools the 7th; coma increasing with raving, and frequent slight alterations the 8th; a moist, hot exhalation arising from the patient, though the skin felt dry and hot the 9th; succeeded by catchings, subsultus tendinum, and convulsive-like respiration, were fatal the 13th day—in Millager's case, 1770‡.

Great pain about the eyes the 3d; great apprehension, despair; countenance flushed, and though thirsty, not pleased with any drink; the 5th; profuse

* Vol. i. p. 60.

† Ibidem, p. 69, 102.

‡ Ibidem.

perspiration yielding no relief, or perspiration about the head and face, thick or turbid urine, lying chiefly on the back, slight cough and costiveness, the 6th; the tongue becoming dusky and chapt; cough more urgent, frightful notions and inquietude increasing the 7th; porraceous vomiting the 8th; frequent retching the 9th; expectorating a little thick matter a few times the 10th; delirium, countenance becoming bloated; coma and diarrhoea increasing, with other symptoms of dissolution, the 11th; urine changing its appearance often, and the thorax pulled violently upwards at every inspiration, the 18th, were fatal the 22d day of Hinchcombe's case, 1770*.

Anxiety, fear, and the skin disagreeable to the touch, the 1st day; costiveness; lightness and giddiness of the head; irregular pulse; nice about trifles; wandering; urine high-coloured, with whitish fibres; anxiety and despondency increasing the 2d; urine pale and crude; countenance flushed and rather wild; giddiness increased, and copious foetid stools the 3d; pain in the right leg at times; despondency yet increasing, though he complained little of any particular symptom; the urine varying often in appearance; the countenance appearing to common spectators so healthy that they thought little ailed him, the 4th; the pulse softer and

* Vol. i. p. 69, 102.

flower than natural; lying on the back, and rising suddenly on one elbow when spoken to, and the urine more variable, the 5th; a very unquiet night, and a prickly heat like eruption about the neck and breast, were fatal the 6th—in Mr. R's case, 1772*.

Obstinately refusing his medicines until the 5th day, nor taking them regularly before the 7th; raving the 8th; giddiness the 9th; costiveness and no complaint, though he bit his nails, the 10th; evident symptoms of indigestion the 11th; convulsive rigors after taking James's powder, and roaring as if in pain, though he complained of none, and even denied his being in pain, the 12th; and spitting a little blood the 13th, were fatal the 14th—in Mr. F's case, 1772†.

Laborious and unnatural respiration, with noise; despair, great debility, and confused intellects, were fatal the 7th day—in James's case, 1776‡.

Ceasing to complain, without being obviously relieved; rattling or stridor in the throat the 4th; muttering or singing inarticulately the 5th, immediately preceded Audley's death, 1776 §.

Being seized with sense of giddiness, extreme debility, and faintness; distorted countenance, delirium; and discharge from the ear, stopping sud-

* Vol. i. p. 402.

† Ibidem, 410.

‡ Vol. ii. p. 112 and 221.

§ Ibidem, p. 218.

denly, ended fatally the 2d day—in Hardy's case, 1777*.

Wandering early in his illness; tremors; watery stools; insatiable thirst; wildness of the countenance, which became foxy or squalid; partial momentary sweats yielding no relief; the pulse moderate; acute pain at the præcordia, aggravated by incessant cough, which, with difficulty, brought up a little phlegm; remission the 6th, followed by sense of cold and exacerbation the 7th, and constipated bowels, were fatal the 8th day—in Birridge's case, 1777†.

Apprehension, extreme despondency, and snorting respiration, were fatal—in Baker's case, 1777‡.

Pain of the left side with cough; great inquietude; and insatiable thirst the 5th, ended fatally the 6th—in Gafford's case, 1777§.

Violent and unremitting pain in the back part of the head for five days ||; hoarseness coming on the 4th day; tension and swelling of the abdomen, with gripes the 6th; effusion of tears the 7th; and dyspnoea the 8th, were fatal the 11th—in Watkin's case, 1777¶.

* Vol. ii. p. 223. † Ibidem, p. 225. ‡ Ibidem, p. 227.

§ Ibid. 228.

|| Though the patient said so, I had my doubts of its being true. There certainly was some degree of remission and exacerbation in that time.

¶ Ibidem, p. 230.

Tinnitus aurium with forenefs and deafnefs of the left ear the 4th ; unnatural refpiration the 6th ; acute pain of the right fide ; alæ of the nofe diftended during infpiration particularly ; and white frothy stools after clyfters, the 7th, ended fatally—in Hutchins's cafe, foon after he went to fick quarters, 1777 *.

Slight head-ach, gripes, thirft and debility, the 1ft ; followed by pains in the extremities, and exacerbation of the belly-ach, with coftivenefs, were fatal the 2d night—in the Marine's cafe, 1778 †.

Great difficulty to put the tongue out, from the 5th ; pulling it out of the mouth with the hand, when asked to fhew it, the 9th ; extreme dyfpnoea, the trachea arteria and thorax at the fame time pulled violently upwards during refpiration ; or the trachea projected or fwelled ; lofs of fpeech at times ; violent agitation of the abdomen the 11th ; putting the fingers in the throat, and pulling the tongue, and provoking retching, when he faw no perfon, were fatal—in Wakeland's cafe, 1780 ‡.

Extreme debility and defpair the 2d ended fatally the 6th—in Kidd's cafe, 1780 §.

Rambling the 3d day ; laborious refpiration and a few drops of blood the 4th, were fatal the 5th—in Norman's cafe, 1780 ||.

* Vol. ii. p. 232. † Ibidem, p. 143—this is a doubtful cafe.

‡ Ibidem, p. 323. § Ibidem, p. 329. || Ibidem, 331.

Profuse hæmorrhage from the left nostril the 6th, and in a less degree the 7th; unnatural respiration and swallowing the expectorated matter the 9th; dyspnœa and oppression at the præcordia; pulling the tongue out downwards, when desired to show it the 10th; convulsion of the lower lip, and alteration of the voice, the 11th; the eyes generally shut the 12th, becoming speechless at times the 13th; frequent changes from bad to worse, *vice versa*; universal paralysis, and an uncommonly large healthy-like stool the 14th; imperfect remissions the 15th; rigidity of the limbs, and sweat chiefly on the forehead the 16th; a profuse sweat for a short time; motion of the mouth as if tasting something, and the pulse becoming more regular and firm than it had been for some time, were fatal the 19th—in Gray's case, 1780*.

Cough, anxiety, and despondency from the beginning; the macerated or boiled appearance of the tongue and a deceitful remission for two days; an exacerbation and countenance flushed the 7th; incessant dryness of the mouth becoming more troublesome the 8th; weakness only complained of, though obviously very much diseased, and a short profuse sweat the 13th, followed by two short remissions the 14th and 15th, and by an exacerbation the 16th; pain about the left ilium, and colliquative diarrhœa, which

* Vol. ii p. 331.

brought on tremors the 17th; skin cool, moderate pulse, extreme debility, wandering, hiccough, pain of the left ilium, and the tongue enlarged, the 18th; retching watery stuff the 19th; and spitting extremely viscid, bloody phlegm, were fatal the 21st—in Hog's case, 1780. I predicted this patient's death on first seeing him*.

Relapse the 4th day, (from his first illness, after returning by his own particular desire to duty,) with depression of strength and spirits; with despair, and a countenance greatly diseased and bloated; diarrhœa; and excessive giddiness the 3d day of the relapse; imperfect remission, cough, convulsive catchings and hiccough, the 4th; inordinate cravings for food; great desire to get on shore; icteric appearance of the tunica albuginæ; the eyes lifeless, thinking himself better, and a deceitful appearance of the pulse, when debility was rapidly increasing, and the discharge from the blister was a dark sanies, the 6th, ended fatally the 7th—in Blair's case. I predicted his death when he complained of his relapse†.

Depression, languor, and great debility; an expectoration of some dark-coloured pus, the 12th; and profuse perspiration on the 16th, preceded Clark's death the 17th, 1780‡.

Extremely diseased countenance; the eyes life-

* Vol. ii. p. 340. † Ibidem, p. 343. ‡ Ibidem, p. 346.
less,

less, with blackness round them; total prostration of strength and spirits, with despair, and a fluttering pulse, from the beginning, were fatal the 5th—in Goldengay's case, 1780, as I predicted at first seeing him*.

Relapse (from having fallen out of his hammock into the scuppers, where he was found wet and almost dead with cold) the 12th of his illness; inability to put out the tongue, which was dry and enlarged; sensation of great internal heat, with thirst, loss of speech, and convulsive twitches of the face, the 13th; pain in the feet and hæmorrhage from the nose the 14th and 15th; with colliquative diarrhœa; a very squalid diseased countenance, and covered with clammy sweats, the 16th; and involuntary effusion of tears, especially at the external canthi, were fatal—in Ruffel's case, 1780†.

Languor and debility from the beginning; relapse the 20th of his illness after being in a convalescent state sometime; debility increasing, loss of appetite; sight failing upon being moved to an erect posture; little or no complaint, except weakness, the 23d; dyspnœa, from eating immoderately, the 25th; relapse the 27th; imagining himself better, when he was not, the 30th; countenance flushed the 32d; motion of the mouth as if tasting something, and a small contracted froth spit up, the 33d; tremors,

* Vol. ii. p. 348.

† Ibidem, p. 352.

cough, and pain of the right breast, 34th; mouth incessantly dry; cheeks livid, and muttering deliriously, 36th; a greasy sweat on the countenance the 37th, were fatal—in Moore's case the 38th, 1782*.

Extreme debility and despair, in Young's case, were fatal the day after I was sent for, in the end of May 1783†. She would take no medicine, though she had been ill a number of days.

Dysenteric symptoms, with extreme debility, and a very diseased countenance, were fatal—in Jeremiah House's case, the 2d or 3d day after I saw him. He would not take medicines. He was infected at Portsmouth‡.

Great debility, and the bowels much disordered, were fatal—in the child Read's case, about the 12th after I saw him, March 1784. He had been ailing for some time before; his medicines were administered irregularly; and from his living at a considerable distance I saw him only seldom§. A young man also at Leap, died after the same manner.

Extreme debility, languor, anxiety and despair; incessant dryness of the mouth, nothing pleasing the palate; oppression, or pain about the præcordia, and refusing medicines, were fatal—in Mrs. G's case, about the 10th day after I saw her, September 1785. She had been ill sometime before I was called in. ||

* Vol. ii. p. 426.

† Ibidem, p. 452.

‡ Ibidem.

§ Ibidem, p. 453.

|| Ibidem, p. 457.

Frequent sighs, pain resembling pleuritis, obstinate constipation of the bowels; the pulse little affected; paralytic affection of the left arm, with violent pain of the hand and livid spots on the back of it threatening mortification, and swelling of the feet and ancles, terminated fatally—in Mrs. C's case, September 1785 *.

A live worm voided by the mouth, and intense coma, in the child Smith's case, November 1785, were fatal. He had been ill sometime before I saw him, and would not take medicines †.

Ulcerated fore throat, giddiness and despair, with great debility, were fatal in Miss P's case. She had been ill about a week before I was sent for, December 1785 ‡.

Colliquative diarrhoea in the girl Leven's case was fatal §, December 1785. She was in the far advanced state—of febrile infection—before I saw her, and no medicines had been administered.

Dark-coloured matter vomited §, when first seized; catchings or convulsive twitches of one extremity and sometimes of the thumb, at other times, universal twitches, and intense coma, were fatal—in Mrs. D's case, 1786 ¶.

Violent universal pains, inquietude, and anxiety, at first; succeeded by too great confidence of her

* Vol. ii. p. 458.

† Ibidem.

‡ Ibidem.

§ Ibidem.

§ Ibidem, 472.

¶ Ibidem, 475.

own situation, with unusual quickness, penetration and inquisitiveness, ended fatally the 7th day of the fever—in Mrs. R's case, 1789*.

Extreme anxiety, and the stomach and bowels much disordered; loss of appetite exceedingly regretted; and the eyes somewhat inflamed; succeeded by indiscreet indifference about life, giving it up for lost, and taking no medicines, were fatal the 8th day of Mr. Y's case, 1789†.

Extremely diseased countenance, the eyes generally more than half shut; total prostration of strength and spirits, with perfect indifference about life or any thing; dozing or comatose at one time; and violent delirium at another; pulse weak, quick and variable, were fatal the 5th day of F. W—t's illness‡.

* Vol. ii. p. 475.

† Ibidem, p. 475.

‡ Ibidem.

CHAPTER XI.

On Prognostics and critical Days in Fever.

ON the subject of Prognostics, I mean to confine myself to those which I have formed from observation and experience, without interfering with or depreciating those which others have formed either by compilation or from their own observation and experience. In other words, I have no intention to insert any, but those which my own observation and experience have confirmed.

I differ, however, widely in opinion from those physicians who reproach Hippocrates, because his prognostics have not been literally verified *in their practice*. Had they practised in the same region and climate, and under all the same given circumstances which he did, and found his prognostics erroneous, their censure would have claimed regard. But that not having been the case, instead of censure, Hippocrates merits our admiration for having formed so many sagacious axioms*, which are confirmed by daily observation, under circumstances so dif-

* This is another strong proof in favour of my opinion, respecting the universality of fever.

ferent; and in times and climates so remote from those in which he practised.

When differences between climates, seasons, and the constitutions of men, cease; when the manners, customs, and mode of diet, amongst men, become the same; and when the same method of treating diseases, regarding the difference between age and sex only, is universally adopted; then may physicians expect there will be no difference in cases of the same diseases, and of the prognostics, throughout the universe, and that they will not differ in any appearance.

Respecting critical days, I freely acknowledge that I have for many years paid no regard to them, in my treatment of febrile infection.

I think it proper, likewise, to observe, respecting crisis—that the evacuations, discharges, and other appearances about the sick, which have been considered or defined *critical*, are not in my opinion *causes*, but *effects* only of the commencement of a favourable alteration and change of the patient's constitution and disease.

To many physicians, there may be nothing new in this remark; but I believe it is new to the generality of medical practitioners, and I think it material in practice to distinguish *effect* from *cause*.

Experimental knowledge of diseases in general, and in particular of febrile infection, sufficient to enable the physician to prognosticate with tolerable certainty,

tainty, is as difficult to attain perhaps as any knowledge relating to the profession. No part requires more attention and more experience, than to acquire the knowledge of every circumstance, respecting situation, climate, season, age, sex, constitution, habits, and manner of treatment of the sick, which, as well as every symptom, ought to be well known and duly considered, before the practitioner forms his prognostic, and makes it known to the relations of the sick. To form a fair and just prognostic, besides having had long experience, he must fully state the whole of the circumstances respecting the symptoms and situation of the patient; then after having duly considered them like an expert arithmetician, after summing them carefully up, the experienced physician will be enabled to prognosticate with precision the event to be expected.

IN PROGNOSTICS, I consider no individual symptom of febrile infection, taken separately, as a fatal omen; because in all cases about to terminate fatally, there is an assemblage of unfavourable symptoms about the sick.

When the patient is seized with violent apprehension; despondency; and extreme debility; which are sometimes defined by extreme prostration of strength and spirits; or fear; or dejection; or depression; or languor; or listlessness; or indifference; or great weakness—and when the
countenance,

countenance, at the same time, is excessively diseased: or, in other words, when the intellectual and corporeal system are equally and violently affected, I observe the prognostic is invariably fatal.

When either the intellectual, or corporeal system only, is violently affected, the prognostic is proportionably less dangerous.

Though the intellectual system should be violently attacked, when the corporeal system is not extremely debilitated, and, *vice versa*, when the intellectual or mental power is little affected, and the corporeal system is extremely diseased, much less danger is announced. It would seem, therefore, that the one system is a material support to the other, when it is violently diseased. But when, unfortunately, it happens that both are violently affected, as too often happens to previously disposed constitutions; if, at the same time, the proximate cause has made great impression on the system, and the infection is virulent—the sick represent plants entirely blighted, which having the energy of existence arrested, the hopes of life are at once destroyed.—This observation will be found just, under every appearance of febrile infection.—In such a case, the physician is puzzled to decide whether the afflictions of the intellectual system, comprehending the modifications of delirium, or those of the corporeal system, including topical affections, are most distressing

treffing to the patient; and which are most difficult for him to manage.

Sometimes one, and sometimes the other, with and even without skilful management, is enabled to drag the other system out of the mire of disease, if I may be allowed to say so, greatly maimed, or almost in a state of torpidity; of which the sick perhaps never, or with the greatest difficulty, recover perfectly. Sometimes the understanding is entirely destroyed. Sometimes one, and sometimes more of the senses are entirely destroyed. In other cases, speech; the use of the limbs or of a limb, is lost. Sometimes general paralysis, and sometimes hemiplegia follows. In violent topical affections, suppuration of great extent; or gangrene; or mortification; frequently ensue—of which the loss of a limb is perhaps the consequence; or the patient may sink under the discharge. This, though no less a curious than important subject, has never, to my knowledge, been attended to.

Cases accompanied with pleuritic or pulmonic affection, in constitutions which have formerly sustained external injury about the thorax, or in people subject to habitual bad cough, from whatever cause it may have originated, terminate fatally in phthisis pulmonalis*.

* As in Mr. O's. case. He died at Haslar. His mother died of consumption, as he told me during his illness.

When

When the sick say they are better, and insinuate that they are too well to lie in bed, or to be confined, though they complain *they do not feel themselves quite clever* ; which, in fact, implies that they are diseased in a way that they cannot express ; when at the same time it is obvious to the experienced and discerning physician, from their pallid, fallow, icteric, squalid, or otherwise morbid countenance, that they are extremely anxious and afraid ; and that their mind is exceedingly agitated, with an uncommon degree of sollicitude and inquietude about them ; under such an appearance of fever, in hot climates, the prognostic is always fatal. An exception has never occurred to me.

The reason seems to be, that the state of the patients is not considered at all dangerous, either by the practitioner or patients themselves ; so that the time is let slip which ought to have been employed in the most active exertion to effect the cure. Other physicians, I find, have attempted to distinguish this deceitful appearance of fever as a particular species, because the countenance is icteric, and because they were not successful in managing it. They have therefore concluded that their unsuccessful treatment of the disease was owing to its incomprehensible malignity, and that it never before had occurred to any other practitioner. This appearance of febrile infection, however, is more peculiar to hot climates ; and it is difficult to decide, whether the

1 2 ·

corporeal

corporeal or intellectual system, in such cases, is most affected. But the patients' answers not coinciding with their apparent situation, indicate a diseased state of mind, as fully as if they were highly delirious. I wish, therefore, to impress indelibly on the minds of young physicians, and other medical practitioners, especially in hot climates, never to trust to slight appearances of febrile infection, but to exert themselves to effect the cure, with as much earnest and active solicitude as if it were an apoplexy, or as a surgeon would do to stop a hæmorrhage from a divided artery. An instant ought no more to be lost in the one case, than in the other. For if the proverb, *anguis latet in herba*, is applicable in any disease, it is in febrile infection, in hot climates.

Very profuse and colliquative evacuations accompanying fever, whether hæmorrhage, or dysentery; or diarrhœa long continued, sooner or later terminate fatally; and generally soon.

Green, or dark-coloured discharges from blisters, afford a fatal presage.

Maculæ; or vibices; or livid, or yellow* partial blotches or effusions, accompanying febrile infection, under debilitating or trifling practice, are

* Osborn's wife, in Fawley, recovered under my own practice, though the abdomen had that yellow and circumscribed appearance which is generally seen in dead subjects, when dissolution commences. I thought she would have died.

always fatal. But under very active and reinvigorating practice, they are not always so.

Some symptoms, such as cadaverous smell, and involuntary profluvia of stools and urine, seldom happen until death is at hand.

An extremely diseased countenance, in the beginning of febrile infection, is fully as dangerous as the hippocratic countenance is, either in the end of fever, or of other diseases.

Stridor in the throat, vulgarly called the rattles, is not always fatal *.

I formerly observed, that the patients seized with syncope; sudden giddiness; faintness; or those, from whose noses a few drops of blood fell; died. But I am happy to say that, under different practice, I have since observed, they are not always mortal symptoms.

A very offensive smell about the sick; and very fetid breath; though hitherto considered manifest signs of great putridity, are not always fatal symptoms.

When the countenance relaxes, and becomes gradually more natural; when fear, despondency, and extreme solicitude, diminish, and, by degrees, give place to the patients becoming hopeful; when exacerbations become less violent, and remissions longer and more distinct; when the intellects be-

* Robert Cull recovered, though he laboured under this symptom, I before mentioned.

come stronger and more easily collected; when, after excessive inquietude and pervigilium, they begin to doze and sleep a good deal—though the sick should positively deny they have slept; when they adhere, or begin to return to their usual habits, to lie in their natural postures, and to take, though with reluctance, what is offered to them; when thirst abates, when the pulse becomes less frequent, more regular, softer, and firmer; when they find sensible relief from natural evacuations, bearing their illness well, and their looks answer to the time and degree of violence of their illness; when the tip and sides of the tongue appear healthy moist, and the moist parts gradually increase; when crusts or fordes easily separate from the lips, mouth and tongue, though frequently replaced; when the skin impresses a more placid sensation on the touch; and when they daily lie quieter, and sleep more composedly—though no critical discharge* should accompany these signs, a favourable termination of the disease may safely be predicted.

No other crisis need be looked for. And as to critical days, my observations and experience have not enabled me to support the doctrine—as appears in the two preceding volumes. I have, therefore, never regarded them in the treatment of my fever

* I speak here in compliance with custom.

patients. But whenever a remission occurred on any day, I was particularly anxious to improve it: although exacerbations never prevented my persevering in my treatment: yet patients are then less able to co-operate with the practitioner.

PART III.

ON THE MANAGEMENT OF FEBRILE INFECTION.

CHAPTER I.

On the Indication for the Management of Febrile Infection.

HAVING already, in the plainest terms, stated that febrile infection is a poison *sui generis*, on the nature of which I presume not to hazard an opinion—in order to attain the knowledge of a successful manner of managing the disease, I was driven to the necessity of considering the effects of this poison on the constitution; and these appearing, from observation and experience in every quarter of the world *, obviously to be a diminution of the vital energy, both in the mental and corporeal sys-

* See the author's observations in the two preceding volumes; in Dr. Clark's, and Dr. Millar's.

tems, that has been imparted by divine wisdom, to constitute and support the healthy state of the general system; the induction, to form the indication for curing it, must necessarily and simply be considered, to reinvigorate the general system; or to restore the diminished tone and energy of life, the *vis vitæ*: and upon this immutable principle only, and by invariably adhering thereto, the cure can be successfully effected.

These few plain philosophical facts are perfectly intelligible to every capacity; they entirely preclude, and even terminate all subtle sophistry and elaborate theories, concerning the doctrine of fevers, and the indications for their management. At the same time it will occur to the intelligent reader, that although this principle contained in this indication for the treatment of fever, when closely and early adhered to, will be attended with salutary effects, it still is a very serious task to study the idiosyncrasy of all the different constitutions of patients, and to accommodate and adapt the practice to each of those who may happen to be affected with fever, and come under the practitioner's care. This study and attention, however, does not imply that there will be any necessity to deviate from the principle on which the general indication of the treatment is founded; but to vary and adapt the doses of medicines of the same class to the numerous

rous idiosyncrasies and symptoms which may occur to them.

But from what has been said, it is not, I say, to be understood, that either difference of climate, of season, of age, or of sex, can form any exception of, or in the smallest degree alter, the universal principle upon which the cure is everywhere, and at all times to be conducted—unless some unforeseen and extraordinary circumstance should render some deviation therefrom absolutely necessary for the moment.

To accomplish the indication, however, the practitioner is not confined to one medicine*, nor restricted from the use of any article of the same class of tonics. For, provided he confines himself chiefly to that class, and acts upon the principle laid down, the more articles of stimuli he can employ with propriety, the sooner he will recover his patients.

* Deobstruents, aperients, and others, may be occasionally required.

CHAPTER II.

On the Means to be employed in fulfilling the Indication for the Management of Febrile Infection.

THE first of these means which present themselves to our consideration are *evacuants*, and which comprehend bloodletting, emetics, cathartics, sudorifics, and diuretics.

Of each of these I shall say a few words, in the order I have placed them ; and, first,

OF BLOODLETTING.

The very title of these means, when viewed in the light of debilitating only, and thus used as means to cure febrile infection, is repugnant to the indication. It is however incumbent on us to consider how far they may be necessary, some of them at least, as preparatives for administering tonics : because, besides their common effects of evacuating and debilitating, it must be allowed that they are accompanied with a degree of stimulating powers. Considered therefore in this view, they must be allowed to have an indirect tendency to promote the cure ; which appears obvious from attending to the mode of their affecting the œconomy. Because the evacuations which they promote, are only consequences

quences of stimulating excited by them. In many cases the stimulus immediately effects the cure like a charm; especially when administered at the commencement of fever.

But this remark will not apply to bloodletting, which will not be found absolutely necessary once in a hundred cases. Jno. Willis, a marine, *who was subject to maniacal complaints*, is the only patient I remember to have taken blood from, and he was positively benefited by the operation*.

I know not any circumstance or argument which can be urged in favour of this evacuation to cure febrile infection, and I much doubt there being in medical history one well-attested instance of its having been beneficial †; but on the contrary, in every case, it will be allowed, if prejudice is laid aside and facts regarded, that it would have been far better for the patient had it been omitted. This evacuation is destitute of stimulus, the property on which the benefit arising from evacuants chiefly if not entirely depends. Instead of exciting stimulus or imparting energy to the system, it diminishes them; and is therefore the most effectual remedy in diseases arising from sthenia. This doctrine is confirmed by experience, and explains in the most satisfactory manner why it has never been found beneficial in febrile infection; but, on the contrary, has been found def-

* See vol. i. p. 390.

† Except in such a case as I have mentioned.

tructive. Destructive however as it has been, authors have invariably adhered to the practice, from an erroneous opinion that all the *genera* and *species* of *fevers* commenced with more or less inflammation, yet never imputed their unsuccessful practice to their own treatment of the disease.

To comprehend the general subject fully, it will be proper to attend to the several operations of these evacuations.

VOMITING.

Emetics act first by stimulating the coats of the stomach; then, through sympathy, by stimulating the parts of the abdominal viscera adjoining or most contiguous to it, particularly the duodenum ductus communis cholidocus; and ductus biliaris. The liver; the abdominal viscera in general; all the abdominal muscles; the muscles of the diaphragm; the œsophagus; and pharynx concerned; are all stimulated by it. And lastly, it acts by the more important stimulus which it excites throughout the system.

The relief communicated by the vomit being proportioned to the degree of stimulus excited. It is a mistake to suppose that vomits relieve merely by the quality or quantity of the matter vomited. This appears obviously from observing the affections of parts seated at so great a distance from the stomach, upon which its contents, admitting they were morbid, could be supposed to have little, if any influence, are immediately relieved by the stimulus of vomiting.

II. PURGING.

II. PURGING.

Smaller doses of the same medicines which vomit, will purge. Therefore as the stimulus excited will always be in a ratio to the dose, this ought to be proportioned to the stimulus required, if it can be ascertained. Conformably to this reasoning, experience teaches that the stimulus of vomiting not being sufficient, the additional stimulus of purging is required sometimes to effect the cure, though at other times either of them is alone found sufficient for it. But if purging becomes beneficial, the benefit, I apprehend, no more depends on the quality or quantity of the stools than on the quality or quantity of the matter brought up by emetics. But it wholly depends on the degree of stimulus excited by the medicine, in the *primæ viæ*, to promote the evacuation : which in fact debilitates when it exceeds in number and * quantity what is natural, and more than the superfluous matter contained in the bowels, and impeding their peristaltic motion—beyond this, purging must be highly improper.

III. SWEATING.

The degree of stimulus required to promote sweating, is less than that required to effect purging : as appears from smaller doses of the same medicines, which produce vomiting and purg-

* Cases accompanied with topical affection, which may require purgatives, being joined with bark, &c. are out of the question.

ing,

ing, when assisted with tepid beverage, being sufficient to promote profuse perspiration *. Yet in many cases this stimulus, after the two former have been used, is found requisite to effect the cure. But in some cases this, though so gentle a stimulus, is found sufficient for the cure. This however cannot, more than the two former evacuations, be continued long, nor repeated without doing a manifest injury, as the quantity of the perspiration, if it exceeds what is naturally evacuated, produces no other effect than to debilitate. The benefit occasioned by sudorifics, as well as by the two preceding evacuations, proceeds chiefly from the stimulus which they excite by promoting them.

URINARY AND SALIVARY EVACUATIONS.

If ever febrile infection was cured by either of them, it was not owing to the quantity or quality of the respective discharges, but, as I have before observed, to the degree of stimulus which the medicines occasion by promoting them. An instance, however, of a cure being attempted by either of them, has never come to my knowledge.

Though mercury or antimony might be administered so as to promote all the evacuations, except letting blood; yet as they often do mischief in other diseases, even when given with great care, I would caution young practitioners against their indiscriminate use in febrile infection, because there are many

* Warm bathing will do it most powerfully.

other medicines, milder and more certain in their operations, to make choice of, than these ; especially antimony, of which the operation is precarious.

Respecting the discharge from blisters, many practitioners have applied them with the same intention that they prescribed the medicines to promote other evacuations, “ to carry off part of the morbid matter,” and have, therefore, as one healed up, ordered another to be applied, to keep up a constant drain. But their doctrines and practice, viewed in this light, are diametrically opposite to our indication, because in doing so they debilitate.

When blisters have been found efficacious in curing fever, it has been owing solely to the stimulus which they excited in the system ; and that more particularly when applied at the commencement of the fever, when little stimulus was required to restore the equilibrium of the system—even before the lymph discharged by the blister could well be supposed to become morbid.

Should it come out * that repeated blisters, applied and healed as soon as possible, are effectual by their stimulating power only—it will establish my remark.

But after all that can be said of evacuations as a cure ; or to say many have recovered of *fevers* who have been managed in the antiphlogistic way, proves the propriety of that practice no more than saying many have recovered of small-pox, under the alexi-

* And I have no doubt but it will.

pharmic or old hot treatment, proves the propriety of this practice ; or saying that many have recovered from the most dreadful accidents, justifies those who placed the sick in such dangerous situations.

The same reasoning is deducible from the use of evacuants, when employed and repeated with a view to purge off morbid matter. For although they have been often found* beneficial when administered at the commencement of fever, it was never owing to the quantity or quality of the matter evacuated only, but chiefly to the stimulus† which they excited in promoting their respective evacuations.

Young practitioners therefore are not to imagine that emetics ; nauseating doses ; or purgatives ; or sudorifics ; are to be repeated, on the pretence of curing fever, with impunity ; seeing their principle effect is to debilitate. Unless, therefore, they are found beneficial in the beginning of febrile infection, they may rest assured those evacuations, as well as bloodletting, will prove highly prejudicial afterwards : nor even in such cases as they have been found beneficial at first, are they to be repeated, because the degree of stimulus which they now excite will not compensate for the debility which they will induce. They are never therefore to be betrayed into this practice under the specious pretence

* See the Observations on Jail, Hospital or Ship Fever. vol. ii.

† On this principle, query if electricity might be so managed at the commencement of febrile infection, as to effect a cure ?

of carrying off, by bloodletting and evacuants, morbid or noxious matter, saburra, colluvies or fomes of the disease, or with a view to remove the universal spasm from the surface of the body ; as they only hasten general debility, and particularly the debility of the stomach, which is more immediately affected by febrile infection than any other viscus. Nor, though stools and perspiration are natural evacuations, and indispensably requisite to health, are they ever to administer purgatives and sudorifics with any other view than to obviate a suppression of those evacuations, the consequences which the suppression would naturally occasion—remembering that costiveness is beneficial.

When febrile infection occurs to patients labouring under hepatic or other visceral obstructions, it will be proper to combine aperient and deobstruent medicines, with roborants and stimulants, throughout the cure ; but these exceptions do not alter the principal indication for the cure, they require an additional one, and more caution only.

CHAPTER III.

Remarks on the Medicines adapted to fulfil the Indication for curing Febrile Infection.

THE indication for curing febrile infection, deduced from observation and experience, points out the class of medicines clearly to be tonics.

Evacuations, and all other means which have a tendency to debilitate the system, consequently can have no fair admission in the cure. While every thing which has a direct tendency to strengthen the system, or comes within the class of tonics, may be conducive thereto.

This being matter of fact, it will be right to make some remarks on the tonics which have been found most beneficial in practice for fulfilling the indication. Although there are many articles of the tonic class, the most powerful, and therefore the most eligible, are but few. Of this numerous class of roborants or tonics, I say very few of them will generally be found sufficient for the purpose; and of those few, the principal are Peruvian bark, wine, and opium. The effects of those I shall endeavour to explain, after taking notice of

of some of the greatest objections raised against bark, as being a general febrifuge.

Remarks on Bark.

Much controversy there has always been concerning the properties and effects of bark. But had it really been the pernicious and insignificant powder which many have laboured, in their numerous volumes, to persuade mankind to believe, the task would have been labour in vain or superfluous; because, if that character of it had been just, it would soon have been universally discovered, and the medicine, with its name, would have sunk into oblivion. But experience teaches that, either from ignorance of its effects, or from prejudice against its being used in fever, they have endeavoured to defame it; though, fortunately, instead of injuring its reputation, they have promoted it. They have done this, by making it more generally known, and made trial of by impartial and candid practitioners, who observed that its enemies had decried it, without adducing sufficient evidence that they had made fair trials of it, and found it pernicious or ineffective. At the same time, they also observed the inconsistency of its enemies while they were decrying it as a febrifuge—that they were liberal in praising it as a wonderful antiseptic.—What likewise contributed to support its reputation amidst all the

force of theoretic defamation—it was acknowledged by its enemies to be a powerful antiseptic.—

Individuals, it is true, have furnished accounts of the superior efficacy of bark in curing intermittent fevers, and even well marked remittents. But unless Sydenham's declaration in his last illness be construed into a recommendation of bark for the cure of fever—"That the same method of cure " would answer in every constitution,*" and be considered as a recommendation of bark for the cure of all fevers—no other writer except Dr. Millar† had boldly asserted, "*that bark will cure all " the ideal variety of fevers,"* before the first edition of the author's Observations on Jail, Hospital, and Ship Fever, appeared, had affirmed what he therein advanced, from his own experience in the Greenland sea; during four voyages on the coast of Africa; in various parts of the West Indies for a number of years; in different parts of America; in many parts of Europe; and on the intermediate seas. Again at Newfoundland, where I had been very unsuccessful formerly in the common antiphlogistic method of treatment; and in a part of Hants, where fever was considered ende-

* See Dr. Millar's Observations.

† If any other writers at that time, avowed that bark would cure all fevers, their practice contradicted their assertion—and I have never heard of them, nor seen their writings.

mial ; no other writer, I say, from his own experience in so wide a field, had, to my knowledge, before advanced that bark would cure fever in all climates.

In a field of practice so extensive, the reader will, I presume, admit that had bark possessed the pernicious qualities attributed to it by many writers, they could hardly have escaped the observation and attention of a person, watching with anxiety its effects. But, so far from discovering pernicious or prejudicial effects from bark in the treatment of fever, I have, on the contrary, found it everywhere a safe and powerful remedy in febrile infection, as well as in many other diseases, when neither wine nor opium, nor any cordial, were joined with it—effects which its opponents were entirely unacquainted with, only because they had never made fair trials of it.

Hence, I am led to believe that the many unjust reproaches and aspersions which have been thrown out against bark, must have proceeded either from their not prescribing it until the advanced state ; or near the fatal termination of fever ; or from their doing it so sparingly as to render it ineffectual. Which show they were unacquainted with the nature of the disease, and the efficacious properties of the bark ; and although they placed no confidence in it, that still they were unwilling it should be thought they had left any medicine of character untried.

Some practitioners indeed fairly acknowledge
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that they do not know when they should administer cinchona in febrile infection, by their starting as a question of great difficulty, “when the proper period to begin to administer the bark is; because,” say they, “it never can be until inflammation, a circumstance which rarely, if ever happens in febrile infection, is carried off by the antiphlogistic plan :” which plan, followed up with abstinence, confinement, and natural tendency of the disease, rapidly augments the impending danger arising from the great *debility*. When this is advanced it is seldom they can do any good whatever, with bark, in the trifling manner they administer it.

In this state of the disease, to effect any good purpose with the liberal use of the bark internally and externally, they should administer cordials and powerful stimulants. Because, though I allow bark to be as important in curing febrile infection, as bread is in our nutriment, yet, to fulfil their respective indications, other articles or coadjutants are absolutely requisite.

But when they do prescribe bark, they apparently do it upon no principle. For, after they have administered only a few scruples, or half drachm doses*, before the fatal termination, which

* I have heard a medical practitioner tell his patient, who happened to be a surgeon himself, “that he must continue to throw in the bark,” when he had prescribed half a drachm every six hours.

as many ounces were requisite to have prevented, they exclaim, that the bark failed them, and would not answer in those cases. Or should the patients live, and not recover speedily, they lay aside the bark, and prescribe other medicines, instead of administering larger and more frequent doses of bark.

When these practitioners prescribe vomits and purges, do they not proportion the doses, as near as they can judge of the patients' constitutions, to the intended operations? When the doses prescribed prove insufficient for the intended purposes, do they not continue to repeat them until they produce the desired effect? Admitting, then, that bark, after full and fair trials, had failed, in a case or two of a thousand, to cure fever, might not instances be adduced wherein ipecacuan and jalap failed to vomit and purge? And should cavillers be disposed to contend, that neither the ipecacuan nor jalap were of a good quality, might not the same remark, with equal propriety, be made concerning the bark?

My bark, in the American war, at one time was so bad, that I was obliged to double the quantity of the dose. After bad bark has long been ineffectually administered, a few doses of good bark have been found sufficient to effect a cure. Bad bark is the source of inexpressible mischief in practice, and the quantity has increased exceedingly since

since the recommendation of red bark, for the price and adulteration have kept pace with the demand for it.

If, then, there is difficulty in ascertaining doses of the most common medicines, such as emetics and cathartics; from our not being acquainted with the constitutions of our patients; and if practitioners, forgetful that the same person requires larger doses to affect him at one time than another; is it astonishing, or does it afford matter for wonder, that the precise quantity of bark which is necessary to cure febrile infection, should not be ascertained, more especially as bark has been administered so sparingly, and apparently upon no certain principle?

Whoever expects to cure febrile infection with bark, should administer it on the principle, “*that it must be given liberally from the commencement of the patients’ illness until the cure is effected, without regarding the quantity required or administered,*” unless he intends to add another to the number of practitioners and writers, who, in the trite jargon, unjustly and unreasonably exclaim, “*that in such cases the bark failed them*”—though their manner of giving it was fallacious—only from its being so ineffectually administered. The same jargon, having passed from one to another on the baseless foundation now recited, has proved the

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the bane of thousands. I cannot imagine what could introduce and so long support such a destructive precept, "to delay giving bark until an intermission or remission is procured," while daily observation showed, that during their fruitless endeavours and expectations to effect either of these, the sick were lost. Upon whatever authority this precept was promulged, or however venerable their names who have supported it—in justice to mankind, from far greater authority, observation, and experience, I know that it has been one of the most fatal precepts which were ever inculcated in physic.—Delay and parsimony in administering bark and supporting the *vis vitæ*, in febrile infection, have been unintentionally foes to the human race.

Having mentioned the objections which theorists have unjustly raised against bark being a medicine proper to cure febrile infection, or being a proper medicine to be administered until an intermission or remission is obtained; and having also reminded the reader of the folly and fatal consequences of administering it upon no principle; I would further observe, the nature of the disease having been fully explained, respecting the properties of bark, that, considering it as a simple, and by administering it with water only, it is very superior to any other simple in the *materia medica*, as appears to a demonstration; and to the satisfaction of the most scrupulous sceptic, who will take the trouble to read the
author's

author's observations* in the first and second volume, especially on board the *Rainbow*, *Edgar*, *Romney*, and *Blenheim*, where it was administered in water only—in some cases with the addition of crude sal-ammoniac or tartar emetic, which contributed nothing to its roborant or stimulating cordial power. Yet the records of physic do not contain an instance of such extensive practice being more successful. If the medical reader still wishes for a more satisfactory explanation of the properties and effects of bark, considered as a febrifuge, I must refer him to his own ideas and comprehension of it, when he prescribes it as the most powerful tonic and antiseptic in gangrene and mortification. After he has discussed that important question, I will venture to affirm that scarce one casuist will be found so subtle and vain as to flatter himself he is able to impose on the most juvenile practitioner, so far as to induce him to believe, notwithstanding the salutary effects which bark produces in various diseases, “That it has any more than one “mode of acting on the general system, whether the “disease be universal or topical.” If this position is consonant to sound philosophy, as I imagine it is, surely all the crude objections of writers, brought against it as being a proper medicine for every stage of febrile infection, fall to the ground.

* His Observations on the Coast of Africa and the West Indies, and on Jail, Hospital, or Ship Fever.

Though

Though topical affection, even of the lungs, unfortunately should accompany febrile infection, and sometimes interdict the administration of bark—such rare instances can hardly be adduced as an argument against the doctrine of its general utility; and much less against the general principle of the treatment. Because, it must, I apprehend, be well known that chronic inflammation may induce phthisis, and that chronic inflammation will not bear antiphlogistic treatment.

The property of bark being simply and obviously to strengthen the general system, can any medicine be better, if so well calculated for restoring tone and energy thereto, when affected with universal disease, arising from general debility as febrile infection does, than bark, a vegetable substance, which is universally approved as the most effectual remedy for the worst degrees of topical debility—*gangrene and mortification*?—In every point of view, sound philosophy appears consistent—whereas false philosophy or false theory is like the horse in the mire, wherein he plunges only deeper and deeper by every exertion to extricate himself.

If medicines, the mode of operation of which cannot be satisfactorily explained, * are supposed to produce

* Though, fortunately, one succeeds in a few steps towards explanation, how short is the philosopher's career, if from thence he proceeds to definition and first principles. As the mode
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produce any other effect than what may be referred to a simple philosophical known cause—operating either generally or topically on the system—I will venture to affirm the supposition is founded on error. The doctrine of specifics, with the candid and intelligent philosopher, vanishes in air.—He acknowledges no such class or catalogue of medicines.

Mercury, which has been styled a specific for curing lues venerea, although like all others mysterious in its operation, is only more powerful than those medicines possessing the same properties of stimulating, attenuating, and removing, morbid obstructions of the absorbent system in a less degree*.

Opium, it is true, has been found superior to any other medicine, in allaying pains ; but still it is only owing to its cordial or stimulating quality, † that it has been found useful in fever.

Bark has been found far more powerful than any is only learned by experience, that one article of food is more agreeable and nutritious than others, in like manner experience teaches that one medicine is superior to all of the same class.—Analysis may recommend, but it is experience only which can confirm the character.

* Antimony possesses similar properties in a less degree, but more frequently irritates and ruffles the nervous system than hydrargyrus.

† Many constitutions will not bear opium, but are effectually relieved by other narcotics, especially hyosciamus.

other

Other medicine, in curing mortification and intermittents; but this has been entirely owing to its roborant, invigorating, or tonic power—So that in the effects of these three most famous medicaments, nothing like mysterious or specific property exists. Other medicines possessing the same properties which these do, though in a less degree, will cure those diseases for which they have been said to be specifics. Were the case unfortunately otherwise, what would become of those nations where those specifics are not known? I believe that bountiful Providence has provided in every country a suitable remedy for endemial disease, if the medical practitioners had sufficient sagacity to discover and apply it properly.

As soon as the *primæ viæ*, or first passages, are emptied, which, when necessary, may be done in two hours time, there is no rational objection remains to administer bark in febrile infection. Because the indication being “to restore the diminution, “and reinvigorate the energy which maintains the “equilibrium or healthful state of the general “system;” it is certainly sound philosophy to apply the remedy as soon as the disease is discovered.

I would therefore prescribe it immediately in doses from gr. x to ʒij or more, according to the exigency of the case, and to the age, sex, and constitution—every hour or seldomer, in the form and vehicle most agreeable to the sick.

But the practitioner must remember, that when febrile

brile infection and debility have been advancing for days before the sick complained, and assistance has been called in, the salutary effects of bark, in whatever way it is administered, will be much slower in being observed, than if it had been prescribed at the commencement of fever,* while the healthful energy was but little destroyed or diminished. This will be found a never-failing axiom in practice—the more early in the disease, and the more liberally, therefore, it is administered, in the form and vehicle most agreeable to the patient, the more successful the practice will be. And it is also to be remembered, that in all cases accompanied with topical affection, other suitable means should be administered along with the bark.

It may be combined with volatiles, liquid or solid opium, ardent spirits, compound waters, wines, or any of the simple waters. I gave it in common water only, on board the Weazel, Rainbow, Juno, Edgar, Blenheim, and Salisbury, from 1769, to 1788, as appears in the “Observations.” With water alone the form may be varied eight ways; and after the same manner it may be varied with distilled water, all the simple waters, wines, compound waters, and ardent spirits and tinctures, almost ad infinitum—besides with milk in different ways, as I administered it suc-

* If this is a position allowed in other diseases, why should it not be admitted here?—If letting blood in peripneumony is neglected at its commencement, will any future bleeding be equally efficacious? No, not any two.

essfully in Pat. Tonyn, Esqr's. case, after I had tried it ineffectually with other vehicles. In milk it agreed perfectly with him, and he soon recovered from a very dangerous situation which his friends thought him in.

On Wine.

I have long ago mentioned that wine, if judiciously administered, will be found of great benefit throughout the cure; and an essential part of diet in the convalescent state, to obviate relapse, scurvy, and perhaps consumption, by its assisting to recover the strength soon. But respecting the quantity to be administered, or how frequently it ought to be repeated with the bark, or between the doses of bark, must be left to the sagacity of the practitioner. On this occasion every practitioner must be regulated by circumstances which cannot possibly be enumerated, nor at all foreseen. He is never to be unmindful, however, that one or two glasses are as complete a cordial to some people as several bottles are to others. How various the gradations, then, between those extremes! But regardless of the quantity, as well as of bark or other medicines which he administers, he is to be regulated entirely by the effects; and never to be forgetful of its inebriating and intoxicating qualities. He is never to pour it into the stomach with no other view than merely to boast

that he had given so much, and carried the practice beyond what others had done before him—beyond the limits of discretion ;—and thereby, perhaps, defeated what ought to have been his intention—to have acquired praise by restoring the diminished energy ;—instead of incurring just censure for exposing his practice to public condemnation or perhaps contempt.

Upon no members of society is it more incumbent than upon the medical, to be exemplarily temperate. I should, for my own part, if I were ill, as soon consent to an executioner being brought to my bedside as a medical practitioner who, in open defiance of physiology, morality, and all decorum, would order wine, or intoxicating liquors, to be poured down my throat—regardless of idiosyncrasy, and my antipathy to them—for no better reason, perhaps, than because he could bear a large quantity himself, and was fond of them. It is a general remark, that physicians are fond of prescribing what they like themselves.

Ardent spirit, in my opinion, ought never to be administered in any case, much less in febrile infection, but when, from idiosyncrasy, * wine positively disagrees with the sick ; or when more powerful

* I knew a gentleman on whom wine, in any quantity whatever, even without his knowledge, always acted as a violent poison.

stimulants are required. In such cases I would dilute spirit with simple waters, and administer it as medicine, to prevent the sick and their attendants from knowing the composition, in such quantities and as frequently as real circumstances required. I profess myself, however, an avowed enemy to the use of ardent spirits, unless in cases of absolute necessity, because I have so frequently seen their bad effects, by destroying the digestive tone of the stomach; and by inducing dangerous states of scurvy, and hepatic affection; besides inducing very bad habits. When spirits become absolutely necessary in any case, deception in giving them is wisdom in the practitioner, and friendship conferred on the patient, especially if they are omitted as soon as possible.

Remarks on Opium.

As an antispasmodic; as an anodyne; or as a sedative; opium * has been universally known; and these effects of it have been acknowledged by eminent authors †. One ‡ of respectability has given it the preference even to bark, as a restorative. The same author §, in paroxysms of fever, accom-

* Given in doses of 10 to 30 drops.

† Sydenham, and many others.

‡ Lind.

§ Idem. He gave it, like others, in very small doses.

panied with violent head-ach, gave it with great relief to the patient.

But for the knowledge of its effects, as the most powerful stimulant in the materia medica, when administered in large doses, the profession is very much indebted to Dr. Brown; who in experiments on himself, as well as on others, boldly exceeded, by many degrees, the largest doses prescribed before that period. It is necessary, however, to except those who have been long in the habit of taking it, in chronic diseases. Such people, by degrees, arrived at very large doses, before his time. From his experiments, however, we learn that, when given in large doses, instead of causing, it prevents, sleep.

The doses formerly, in recent cases, were from gtt. 10 to 30, and he gave it in doses of 150 gtt. Opium had long been known amongst the Asiatics to be a most powerful stimulant. They have been in the habit of taking it in large quantities, when they intend to excite the degree of madness called *running the muck*. But its effects as a stimulant were not brought into medical practice until Dr. Brown made his experiments*.

Of the truth of this I am fully convinced by my own experiments on myself, and upon other patients, which I was induced to make from Dr.

* The author speaks here to the best of his knowledge.

Brown's and Mr. Jones's account of it. Given in the manner hereafter mentioned, it neither occasioned sleep nor comatose symptoms. But however favourably I may be disposed to think of opium, I would by no means presume to *dash* at first with large doses, until I had acquired some knowledge of the patient's constitution. Administered in moderate doses with bark, in febrile infection, and gradually increased according to circumstances, it acts as a powerful stimulant. But a trial how much can be poured down the throat, is far less to be made with opium than with wine. Extremes in medical practice ought never to be adopted but on sure ground, or in the most desperate cases; especially with active poisons, of which opium is certainly one of the most powerful.

For the information of others, how needful precaution is, in administering opium to patients with whose constitutions practitioners are unacquainted, I shall now relate the manner in which I made trial of it on myself, and was affected by it. When I made my experiments, I was in the state of health commonly called *nervous*—from living too abstemiously while I was using violent exercise.

I began with doses tinct. theb. $\text{sp. vol. arom. a. gtt. xxv.}$ $\text{sp. lav. c. gtt. xxxv. ex vin. alb. \text{z} \text{iss,}}$ which I took at bed-time, now and then; gradually increasing the dose of tinct. theb. & $\text{sp. vol. arom. \& sp. lav. c.}$ to gtt. lxx, of which the general effects, after the latter dose, were as follow :

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I passed

I passed the night comfortably, though I could not sleep; but early in the morning I was more inclined than usual to lie in bed, and even to doze. When I got out of bed, my countenance was extremely diseased, and I was told that my eyes appeared bloodshot, as if I had been drunk overnight. I was so very languid, confused, heavy, and giddy, that I could scarcely stand. My mouth was exceedingly parched. I perceived a disagreeable sensation about my throat; and on attempting to swallow, bread especially, I felt deglutition almost impeded from straitness and dryness in the pharynx and œsophagus. My appetite, though always keen for breakfast, was entirely destroyed. I retched frequently, and, altogether, was perfectly diseased, and unfit for business. My pulse was languid and slow.

I therefore resolved to take a dose of tinct. theb. gtt. xl. in the manner before-mentioned, which gradually recovered me; but I had no appetite; my swallowing was very difficult; nor was I comfortable all day. I was less nervous than usual, the day following, and, except being costive, was, in other respects, well. The doses of sixty, fifty, forty, and even of thirty drops of tinct. theb. affected me in the same manner as the one of seventy drops, only in a proportionably less degree.

I have, in a similar way, given opium to many patients debilitated from various causes; and to one I administered doses of ninety drops—all of whom,

next

next day, felt themselves affected as I was. But numbers of them complained also of great itching, and of a slight eruption over their bodies, after taking it. The dose, however, which I most commonly administered, was fifty drops of laudanum, with the same number of liquor an. Hoff. or sp. ammon. comp. or of sp. lav. c. either in wine, or in ardent spirit, not exceeding an ounce and a half. Thus administered in the exacerbation of several bad cases of febrile infection, a remission was effected.

But in one case of fever, which an eminent physician consulted me on, thirty-five drops were prescribed, in a gentle cordial draught, ineffectually. The patient had been ill a considerable time before the consultation, and I did not see her again. She had then marks of dissolution about her; and she had been extremely debilitated by purges, which the apothecary had given her, we were informed.

The cases of debility, in which I have made trial of opium, one excepted, terminated favourably. This was the case of Mr. ———, an emaciated person, at the point of death, to whom it was administered frequently in very small quantities.

That the effects of opium, or of diffusive stimuli, are similar to those occasioned by an excessive quantity of wine, I have fully demonstrated. That every person can bear much more wine at one time than he can at another, is universally known.

That the same dose of opium may, in like manner, have different effects at different times, in the same constitution, according to the state thereof; and therefore that it ought to be administered with extreme caution, requires no additional argument to prove.

The case of Dr. Brown's last illness furnishes a most melancholy argument to prove this reasoning. Accustomed to administer, and to take, opium in large doses, he imagined he could manage this powerful medicine with as much facility and safety as the dexterous surgeon manages his knife; but his death, which was the consequence of his taking an improper dose, proved his mistake.—His fatal mistake, while it affords a signal triumph to his opponents, who probably hug themselves in their security against such a catastrophe befalling them, because they are not inclined to make experiments, holds forth a caution to rash practitioners, who imagine their experiments could not be limited, 'That unless accurate discernment between the diseased states of the system, and unless judicious deliberation, regulated by experience, govern their practice, death will infallibly limit their experiments.' Dr. Brown possessed great abilities, which he employed for the public good; and had his discernment, and caution in his practice, corresponded with his superior knowledge and

and his comprehensive genius, his loss would have been more universally regretted than it now is.

Before I proceed, it will be proper to notice, that having, on many occasions, found the usual forms of administering cinchona were rejected by the stomachs of the fever patients in this hospital, I was under the necessity to turn my thoughts on devising another form to administer it in, agreeable to the stomach; and it then occurred to me, that by fermenting the decoction, it would become a medicine possessed of very important additional property, to what it had been hitherto known to possess; its known quality being rendered, besides, more agreeable to the subject:—both of which were very desirable objects.

Besides the usual forms, therefore, of administering cinchona, recommended in the former edition of this part of the work, I would recommend it to be given in a state of fermentation, in the cases that cinchona is found, in the usual forms, to be rejected by the stomach. The manner of preparing it will be stated in the sequel of the work.

I think also proper to notice another article which has been added to the small number of medicines as yet found of any consequence or of real efficacy in curing febrile infection, as before mentioned.

The article I mean, is the affusion of cold water, particularly recommended by Dr. Currie.

Of the efficacy of the cold affusion, I cannot speak from my own experience. But, according to Dr. Currie's account of his experiments with it, I am warranted fully in asserting, that its manner of operating, and the period of the fever when its use is found most efficacious, accord perfectly with the general remarks I have made: "that fever is to be cured universally on one general principle, and that the sooner the means for obtaining this end are liberally employed, the more efficacious the practice will be."

Every additional article of medicine, therefore, belonging to the class of tonics, which shall be found by experience to be efficacious in curing febrile infection, is a corroborating proof of my remark. And the cold affusion being, according to Dr. Currie's observations, found of the less efficacy, the later in the fever it is delayed to be made use of, coincides exactly with what I have said concerning the use of cinchona in fever—"the earlier it is administered in fever, the more effectual it is, and the less will be requisite to cure the patient."

The cold affusion is to be administered, then, in the early stage of fever, during the hot period of the paroxysm, and also to be repeated in the manner Dr. Currie has directed*.

* I beg to refer the reader to the Doctor's book on the subject.

But the use of this application does not interdict the administration of cinchona, wine, and opium; or, instead of the latter, of hyosciamus. Because they all concur to the attainment of the same object—the cure.

It is very remarkable, in the progress of the cure of febrile infection, that, generally speaking, when it is advancing favourably—the state of the bowels coincides with the indication for the cure, or treatment, which the author has deduced from his observation and experience; that is, *a constipated state*, a state which does not debilitate. This plainly shows how very prejudicial it must be to use means daily to keep the bowels in a contrary state. I mean a lax or soluble state, as it is commonly called—a state which certainly tends to debilitate and counteract the indication; an object that we are not for a moment to lose sight of preventing, unless it be for some peculiar circumstance or reason.

It is no less remarkable, that the most obvious effects of the cinchona; opium; and wine, especially of red port, the principal remedies employed in the cure, tend to constipate or to promote constipation of the bowels, and to check the other profluvia the sick happen to labour under; and that unless they produce these effects, the cure is known to proceed very unfavourably—from the profluvia counteracting their efficacy: and by their hastening debility

debility more rapidly than medicines can possibly reinvigorate the system.

However, if constipation of the bowels be much dreaded or apprehended by the practitioner, I would recommend, instead of opium, some preparation of hyosciamus, or some of the formulæ containing it, hereafter mentioned.

Hyosciamus is a medicine I have been in the habit of using in practice upwards of thirty years : and without the least prejudice, I have observed, in a very liberal use of it for fourteen years in this hospital, that without the bad effects of opium, which are known to every practitioner, hyosciamus contains the good effects. I have also observed that the tincture and powder made from the exsiccated extract, are far more efficacious forms of that valuable simple, than the common extract in use. The method of preparing these, and the doses, will be described in the Formulæ.

The other medicines which are at times proper to be administered along with those I have mentioned, and place my chief dependence on, for the cure of febrile infection, may be comprehended under aperients, deobstruents, bitters, and stimulants. Of the first class, the neutral purging salt, manna, rhubarb, jalap, aqua ammoniæ acetata, neutralized kali, ipecacuan and jalap, will be found sufficient.

Of

Of the second class, kali, sapo, aqua calcis ; medicamenta aloetica; præparationes antimonii, digitalis, and hydrargyri.

Of the third class, gentiana, colomba, serpentaria, cortex. stæ luciae augusturæ, eleutheriæ, indica, or looperiana, myrrh, confectio aromatica.

Of the fourth class, sal succini, spiritus ardens, tincturæ variæ, and medicamenta volatilia.

Besides which, the preparations of various animal substances are conducive to effect a cure.

CHAPTER IV.

On the Cure of Febrile Infection.

TO place this subject in the clearest and strongest light, I shall divide this chapter into four sections, or distinct heads.

SECTION I.

General Method of managing Febrile Infection.

HAVING briefly submitted to the attention of the reader, the nature and effects of evacuations recommended and employed by most of the authors on the subject, and also the effects of particular remedies which have been found most essential in the cure of febrile infection, I shall proceed to lay down the general method which observation and experience authorise me to recommend for curing fever. In doing this, however, I would not be understood to enjoin positive rules; because I know from experience, that the various constitutions, and the numerous unavoidable circumstances which in practice occur about the sick, render deviations

tions from general rules absolutely necessary. But this latitude is only allowed to be extended to the choice of, and to the doses of medicines of the tonic class. Not the least deviation from the general principle upon which the cure must be invariably conducted, is here implied. In all climates, in all seasons, and in every situation, will this principle of “reinvigorating the general system, and of restoring the diminished energy,” be invariably found requisite—from the slightest degree of febrile infection, to plague itself—under all the intermediate circumstances, only adapting the quantity and frequency of the doses of medicines to the quantity of the disease.

I cannot help observing here, in support of this general remark, that in the bay of Mexico, in 1766; on the coast of Africa, in 1769; at Jamaica, in 1774; at Gibraltar, in 1780; in the British channel, 1783; and at Newfoundland, in 1788; I experienced in my own illness; in public as well as in private extensive practice, both at sea and on shore from 1759 until the present moment, the happy effects of conducting the method of treating fever upon the general principle recommended. Topical affection, however, is not to be neglected, when it occurs; and the complex indication must, if possible, be fulfilled.

SECTION II.

Application of the Management, to the Commencement of Febrile Infection.

THE commencement of fever is the most advantageous period for the sick to obtain assistance, and the period when medical practitioners will derive most credit from their practice. A moment of this precious time should not be lost, but every instant should be employed in using the most effectual means to fulfil the curative indication; because, though many cases are so mild as neither to require great exertion, nor great skill to manage them, it is uncertain, at the commencement of fever, in what manner the case may terminate, especially if the practitioner is unacquainted with the sick, or is in a hot climate. In my own practice, I have often found most danger where at first none appeared. Therefore,

Should there be reason to suppose that the *primæ viæ* are loaded with indigested matter, or saburra, let it be *immediately* dislodged, and carried off, by I. II. III. IV. or V. *; and unless a stool is soon obtained by the emetic, VI. VII. VIII. or IX. †, is to be administered. In many cases, the emetico-cathar-

* See the Formulæ.

† Ibidem.

ticum, X. or XI. * may be preferable, at the commencement, to the vomit; but in cases of very great debility, and in advanced cases of the fever, before the medical professor has been called in, it will be proper to omit both emetic and cathartic; and only to administer a clyster, if the sick are costive; otherwise the emetic and cathartic may be assisted with camomile tea, broth, or any other convenient and suitable drink.

In the evening, when the operation of the medicines already prescribed is finished, I would order the pediluvium, and one of the sudorifics, XII. XIII. XIV. or XV. † to be taken, and some suitable warm drink after it; wine whey, vinegar whey, weak sherbet, wine and water, weak brandy and water; or an infusion of any of the common herbs, sage, hyssop, mint, or balm; sometimes it must be regulated by circumstances, and the patient's inclination. I would also order a blister to be applied between the shoulders, especially if head-ach is much complained of: but

If, after the operation of the vomit, it is too late to administer the purge; if the cases admit of delay; and if the sick are costive, either VI. VII. VIII. or IX. ‡ should be given next morning; and, immediately after a stool is procured, the bark, in the form and vehicle most agreeable to the sick,

* See the Formulæ.

† Ibidem.

‡ Ibidem.

should be repeated, according to the urgency of the case; i. e. every hour, or every two, three, or four hours, as prescribed in XVI. XVII. XVIII. or XIX.* until the cure is effected.

Should the case appear urgent at its commencement, I would immediately order the bark, after the manner of XX. XXI. or XXII.† every hour; and if I practised in a hot climate, or where febrile infection was virulent, this should be the mode of practice I would adopt, the moment I was called in.

If the sick complained in the morning, I would either prescribe the emetic, the emetico-catharticum, or the clyster, immediately; and the bark, as in No. XX. XXI. or XXII.‡ with or without any aperient medicine, according to circumstances, until the patient recovered, which will be about the time when bark is begun to be administered by practitioners in general. The sudorific, pediluvium, and blister, may likewise be prescribed the same night at bed-time, if thought proper. In bad cases, the bark ought to be administered as regularly through the first and every succeeding night, as in the day-time.

The anodyne stimulant draught, or bolus, No. XXIII. XXIV. or XXV.§ may be repeated every

* See the Formulæ.

† Ibidem.

‡ Ibidem.

§ Ibidem

night at bed-time, or oftener, as circumstances require; and those must also regulate the quantity and quality of the medicines, and nutriment, to be joined with the bark.

SECTION III.

Application of the Management of Febrile Infection, when it is confirmed in the System.

IF the sick have delayed to call in assistance until febrile infection is confirmed in the constitution; until debility is advanced in its progress, and is now rapidly increasing, by the ill-judged management, perhaps, of letting blood, vomiting, sweating, and purging off repeatedly *part of the morbid matter* *; by confinement, and inanition, which necessarily accompany the natural tendency of the disease: If the practitioner has not seen the patient until an alarming exacerbation of every symptom is come on, and the stomach is now so greatly deranged that it will not retain medicines nor drink;

* This is one great reason which authors have assigned for their practice.

or perhaps not until the time is irretrievably lost, when a vomit, an aperient, or a sudorific, by their stimulant power, might have been of great benefit, but are now interdicted by the general derangement and debility of the system, inasmuch that any evacuant medicines would most probably do much more injury than their stimulant power could repair, — a moment is not to be lost.

I would therefore immediately use tepid bathing, or lavation, with a little vinegar in the water, and then prescribe the formulæ No. XXVI. or XXVII. * according to circumstances, and drink, as suitable to their cases and situation as possible, to be rather distilled into their mouths, *were it practicable*, than to administer it in draughts. If the stomach continues to reject every thing, the draughts XXVI. or XXVII. † are to be repeated as occasion requires; or XXVIII. ‡ may be given in the same manner, until the stomach is composed. The bark is then to be given as liberally and as frequently as the sick can bear it, either with medicines, or with such a proportion of wine, compound waters, or ardent spirits diluted, as may be found proper.

Should the practitioner unfortunately have conceived a prejudice against opium, in any form, the stomach must be composed with hyosciamus, in any

* See the Formulæ.

† Ibidem.

‡ Ibidem.

form

form the practitioner pleases; or with volatiles, ardent spirits, compound waters, or wine, in the forms most agreeable to the sick, and most suitable to their cases;—then the bark may be given as has been before directed. But the practitioner is now to expect that much more bark will be required to effect a cure, than if it had been administered at the commencement of the patient's illness. So conformable to truth will the axiom which I have formed from experience always be found, “That the earlier and more liberally cinchona is given in febrile infection, the more speedily it will be found effectual, and the less will certainly be found requisite for the cure.”

In violent exacerbations, the anodyne stimulants may be repeated with great advantage along with the bark; and blisters may at any period of the fever be serviceable, provided they are applied only as stimulants, and healed up as soon as possible, and not upon any account be kept open as drains, which cannot possibly have any other effect on the constitution than to debilitate.

SECTION IV.

*Application of the Management of Febrile Infection
when it is far advanced.*

BUT if the medical practitioner has not been called in until obvious symptoms of dissolution are come on; when profuse hæmorrhage, dysentery, colliquative diarrhœa, or colliquative sweats, and extreme debility, are hastening the sick to the fatal period; let him under such dreadful symptoms, upon no pretence whatever, lose any time, even if these should appear at the commencement of fever, because the danger is equally great as if the fever were of long standing without such symptoms. Let him not imagine that those appearances imply any specific difference of fever, because the only difference in the case depends on the various degrees of their violence, which shows they require the greater expedition in the treatment, and the more frequent repetition of the medicines: let him not therefore, I say, with either ancient or modern theorists, be an idle spectator, and expect that, by those profuse evacuations, nature is either relieving herself, or pointing out a method by which they ought to assist her to carry off the morbid matter of the disease, when the little remains of strength and life are only running out—On the contrary, let him, I say, be diligent and active, and consider

Consider it his duty to restrain such evacuations ; to support and reinvigorate the diminished energy *by every possible means*, particularly by administering bark, both internally and externally, in forms similar to No. XXIX. XXX. XXXI. and XXXII.* in clysters, cataplasms, fomentations, and even baths—the aim being, as it were, to saturate the system with the bark and other tonics as speedily as possible. In the meantime, volatile stimuli XXXIII. † ; or mineral acids, or any other medicine or vehicle which may be thought proper, are to be administered internally with the bark. The sick may likewise be indulged with ripe fruits ; and decoctions of meats. Even though the stomach should again and again reject them—the same or similar means are still to be persevered in—with the addition of fixible air, as XXXIV. and XXXV, ‡ because, neither philosophy nor experience point to any other method of treatment, by which dissolution can possibly be prevented.

In this, as well as in the preceding state of fever, cinchona in a state of fermentation will be found of essential benefit, because it will agree with the patient's stomach, when nothing else will.

Sinapisms may also occasionally be applied to the feet ; and at times covering the head with a blister will be highly proper, especially when the head is much and obstinately affected.

* See the Appendix.

† Ibidem.

‡ Ibidem.

When the sick labour under the grievous symptom of stupor or coma, for which fever has vulgarly been denominated typhus—though few of the sick ever labour under it, when they have been properly managed from its commencement—tepid bathing, cold lavation, and blisters, are peculiarly serviceable

SECTION V.

Management of particular Symptoms.

RESPECTING the management of particular symptoms which occur in febrile infection, I shall first take notice of pulmonic and hepatic affections. When we meet with either of these untoward symptoms, they may be considered not only as chronic affections, and of long standing; but as merely incidental, and depending upon the constitutions and circumstances about the sick; or perhaps partly upon the season, *and not upon febrile infection*. However, they are so inimical to the patients' case, that they will require all the attention, skill, and experience of the medical professor, because in managing them, or any other incidental symptoms, the principal

principal indication for the treatment of fever must never be lost sight of, in some measure at least, for a time.

The reader is therefore reminded, that I am not speaking of peripneumonia; nor of hepatitis, nor of any affection arising from and depending upon inflammatory diathesis; but of chronic or incidental affections, which probably owe their origin to, and are the consequence of diseases proceeding in the first instance from an inflammatory diathesis, and are now accompanied with chronic pain, cough, expectoration, and perhaps with incipient tubercles of the lungs. Or the hepatic affection is accompanied with pain, and enlargement of the liver; with obstructions and suppression of the biliary secretions and excretions; all of which symptoms will most probably be relieved by XXXIV. * and XXXVII. and with calomel in a small quantity, morning and evening—or XXXVIII †.

Hæmorrhagia will be carried off and prevented by such medicines as XXXIX. † and XL.

The icteric yellowness, or bilious-like suffusion, which often appears over the whole body in febrile

* See the Appendix.

† Ibidem. When mercurials are given, as deobstruents in hot climates—great caution is necessary, because they are very apt to excite profuse salivation. Purgatives should therefore be occasionally joined with them.

‡ Ibidem.

infection, especially in hot climates, is not by any means a dangerous symptom. But its sudden appearance, notwithstanding its continuance is generally of short duration, is very apt to alarm the young practitioner, and to induce him to think he has got the disease called, vulgarly, *yellow fever* to contend with. He is not therefore to imagine that it implies any peculiar malignancy of the case; nor that it proceeds from the texture of the blood being broken down and in a dissolved state, of which the serous parts extravasate the capillary vessels, that are now relaxed from extreme debility, and give just cause for alarm. But he is to consider it as an effect of constipated bowels, or of incidental obstructions in the liver and biliary ducts; and therefore that deobstruents, especially aloes or calomel, are to be joined with the bark. The sudden departure of this symptom, on procuring free stools, prove the truth of this remark.

Why the liver is so frequently affected, especially in hot climates, is not easy to be accounted for. But certain it is, that, the stomach excepted, no other viscus is so often affected.

The train of eruptions, particularly petechiæ, maculæ, or vibices, which are the most dangerous, disappear, and will yield, on persevering in the general method of treatment, together with acid nitric, or muriatic acid.

Delirium and other local affections will require
blisters

blisters and fomentations, perhaps again and again ; and the former will also probably be relieved by sinapisms.

The diminution of the different senses ; or of the uses of the extremities ; or of the natural evacuations ; or of the periodical discharges ; or other incidental symptoms ; will be remedied by fulfilling the general indication—unless the method of treatment which I have pointed out is deferred too long, or until the extinction of the vital energy is at hand—bark and stimuli, which, had they been administered early and liberally, would have succeeded, will now prove ineffectual. But when the remedies, before mentioned, are administered frequently and liberally, with proper regard to the heads of the following chapter, the medical professors will have the satisfaction to reflect that they have done their utmost, and often enjoy the pleasure of seeing the sick recovered from the jaws of death, beyond their own expectation, and to the unexpected pleasure and gratitude of every one concerned with the sick.

CHAPTER V.

Circumstances requiring particular Attention in the Management of Febrile Infection.

SECTION I.

On the Administration of Medicines.

IT is much to be lamented that medical practitioners are very often imposed upon and deceived by the patients and every one about them—even by relations as well as by nurses. They are assured that their directions have been strictly followed, when the medicines are hid or thrown away. Yet, notwithstanding this unfair and ungenerous treatment, the *Doctors* are blamed because the sick do not recover. But surely it ought to be an object of the first importance, with all parties concerned in the management of the sick, that the directions of the medical professors should be faithfully attended to, both respecting the administration of medicines, drink, and of every other necessary attention.

Medical professors and practitioners ought, in bad cases especially, to be distinct in their directions; rigid in their rules; and careful in their inquiries in
what

what manner the sick were managed, and passed the time since their last visit. They should be very strict and accurate, yet mild. Their visits should be more frequent than the visits of medical men commonly are ; and they should see the medicines given to the sick when they visit them. By which means they will receive better information of the state the sick are in, than they possibly can learn otherwise. Experienced practitioners, I know, stand in no need of this minute advice ; but the young and inexperienced, who are apt to imagine that they have discharged their duty to the sick when they have written a prescription, and given a verbal direction, must be cautioned against this indifferent, formal, and flimsy practice—if they wish to acquire reputation and knowledge in their profession, and, what is still more important, if they wish to be successful in practice.

SECTION II.

On Air.

AIR is of the highest importance to the existence of vegetable as well as of animal life. Whether we are in health, ailing, or sick, it is equally essential and necessary to our well being. Unless, therefore,
constant

constant attention is paid to this *pabulum vitæ*, practice in other respects the most judicious will prove not only ineffectual, but even the health and lives of medical practitioners and other attendants on the sick will be in perpetual danger. Negligence in respect to air has been destructive to thousands of valuable lives. Every possible method ought to be incessantly used to render it as pure and salutary as the situation and circumstances of the sick will admit.

Various are the means which have been made use of for this purpose and recommended by authors—of whom the late Dr. Lind, of Haflar Hospital, has been more particular than most writers on the subject. Since the publication of the former edition of this work, Dr. Carmichael Smith's mode of fumigation has prevailed; and been thought useful by many. But on board ship the most effectual general method of fumigation, that I know, is, beyond comparison, with tobacco. Various substances have been burned, or fumigated, or evaporated, in the chambers or apartments of the sick; in wards of hospitals; and in sick births on board of ships. All of which may be more or less useful, and may therefore be tried by turns, in the manner I have mentioned in my observations on jail, hospital, or ship fever, in the second volume of this work. But as those directions cannot be followed in hospitals, nor in chambers; other means of changing the air, and rendering it salutary, must be the more particularly attended to.

Wards

Wards for fever patients in hospitals ought to be so lofty, and the windows so high, as that the upper part of them might be open without any risk of the wind or stream of air blowing upon the sick in bed. The wards should also be so constructed as to have windows on both sides; that, some on each side being open, occasionally, (besides ventilators) a thorough draught of fresh air might force the foul air out. There should be no curtains round the beds or cradles; but there might be linen curtains to the windows, dyed with colours least offensive to the eyes, to obscure the light.

Various things may be burnt in rooms—as cascarilla, frankincense, myrrh, and camphire. Others may be evaporated—as spirit of salt, spirit of wine and camphire, æther, and vinegar. There should always be a little fire, which is the most powerful ventilator, in the wards, to keep a constant draught of foul air up the chimneys: and Dr. Carmichael Smith's mode may be also tried. The wearing-apparel of the sick should be carried out of the ward or room, as soon as they are admitted into the sick birth or ward, or shifted. Indeed it would still be better if there was a room purposely to shift and wash the sick in, before they were carried into their wards or births—to prevent as much as possible stench, filth, and infectious effluvia, from being carried along with them. Provisions ought never to be kept in the wards longer than the sick are eating or supping
in

in them. Besides strictly following those directions, in rooms wherein sick lie—the door, or a window, or both occasionally, should be constantly or very frequently opened. If the bed stands on castors, it should be moved out of the draught, when both are open; or the curtains should then be haled round the head of the bed. At other times, the curtains should never be more haled round than barely shade the light from the eyes of the sick. The windows ought never to be close down; nor the window-shutters close shut; nor the curtains down at the same time. Care must be taken to admit so much fresh air at all times into the apartments of the sick as will force the foul air up the chimneys or out at some other opening. When the weather is so hot that a fire cannot be suffered in the wards or rooms, a large lamp should be burnt constantly in the chimney, for a conductor of the foul air. The rooms should never be kept hotter than if the sick were in perfect health. In a word, the purer and the more temperate the air is, the more favourable will the situation of the sick be rendered; and the less risk medical professors, relations, and attendants about them will stand in of being infected.

SECTION III.

On Cleanliness about the Sick.

CLEANLINESS is a matter of great importance to the sick in general, and more particularly to fever patients, and must, therefore, be carefully attended to; otherwise all the skill and attention of the practitioner to save his patients' lives, and to prevent the contagion from spreading, will often prove ineffectual. Every circumstance about them merits the minutest care. Whether they are situated on board ships; in wards of hospitals; in the corner of a hovel, or in the apartments of a palace; makes no difference respecting the absolute necessity there is for attending diligently to cleanliness. No sort of excrementitious matter—whether stools, urine, or expectorated phlegm, mucus or pus, should be kept and harboured about the bed. No old dressings; foul linen; or clothes of any sort, more than are absolutely necessary; or provisions; should be kept in wards, berths, or apartments of the sick.

The sick are to be got out of bed, once at least, every day, if possible, and to be kept up as long as their situation admits, to allow their beds and bedding to be aired at fires, or in the sun, or to be shifted, as occasion may require. When they are so weak as to be incapable of sitting up, they should

either be moved into another bed, or be laid on a couch or mattresses, on purpose that their beds and bedding may be aired. I not only have had beds and bedding aired as often as possible, but have ordered two sets of bedding and beds to be destroyed on board ship, before some patients have recovered. Provided proper care is taken in doing it, and the circumstances of the sick will admit, neither the chambers, nor the beds, bedding, or the linen of the sick, can be too often aired, or changed. The apartments, wards, cabins or berths, should be frequently swept and sprinkled with something, according to circumstances, to cool and refresh them.

When a fleet, an army, or a family, become sickly, either the physician's or the surgeon's, or the apothecary's attention should be incessantly employed about the sick. Indeed medical practice, in the two former branches, labours under such insurmountable difficulties, that all possible care and exertion will, at times, hardly procure the practitioner self-approbation on the occasion. I must therefore repeat, that sick on shore require the physician's attention and visits much oftener than is customary, were it only for their own credit. When the lives of valuable subjects are in danger, expences and trouble bear no competition with the consideration of preserving them.

SECTION IV.

On Quietness and Rest.

THEY who have never been sick on board of a ship, cannot possibly conceive what misery fever patients suffer from din, and perpetual clamor, especially when the head is, unfortunately, much affected. Neither can words express the luxury and comfort which they enjoy when removed from a ship to a quiet situation on shore—as I have *.

The incessant, though irremediable noise on board, continually disturbs and distracts the head, far beyond the power of any one's comprehension who has not experienced such an additional affliction. Admitting, therefore, that the sick were fully as well treated, in other respects, on board as they are in hospitals on shore; the enjoyment of quiet rest, and tranquillity, gives a decided preference in favour of the shore for the sick—were they lodged in tents only.

Respecting sick on shore, I shall only observe, that the more quietly every thing is conducted in their chambers or apartments, by medical professors, relations, and attendants about them, and the less they are disturbed by any visitors, the more com-

* At Jamaica, when I belonged to the *Rainbow*, in 1774.

fortable in every respect the sick will find themselves; and the sooner they will recover. The mind ought not upon any account to be disturbed, by any means whatever.

To which may be added another advantage, viz. the infection will be less liable to be communicated to others.

SECTION V.

Drink and Nutriment.

WHEN thirst is incessant, as frequently happens, the most judicious manner to administer drink is as nearly as possible to keep distilling it into the mouth. Large draughts ought never to be allowed, because they only satiate craving for a moment; the mouth and throat soon become dry again, and a repetition of the draughts, by distending the stomach, which presses against the diaphragm and lungs, and upon the great vessels, only occasions inquietude, anxiety, and oppression about the præcordia.

For drink, I generally prefer wine and water. Sometimes it will be proper to acidulate it with the juices of fresh or preserved fruits; or with mineral acids; and sometimes a little burnt or toasted bread adds a grateful flavor to cold water.

But

But in prescribing drink it will frequently be proper to consult the patient's inclination; and at times the circumstances and situation of the sick must regulate the choice—but water alone will very seldom, if ever, be proper; because the drink ought to contain a degree of stimulant or roborant power—so that it may coincide with the general indication for the cure.

Respecting nutriment, nothing but what is in a fluid state will be swallowed, until they arrive at a state of convalescency. And then, in administering food—be the rank or condition of the patient what it may, no regard should be paid to fashionable hours—which, I believe, have often been destructive to many convalescents with weakly constitutions, among people of condition. When craved, is the properest time to administer it.

In ordering and administering diet as well as drink, the situation, circumstances, and habits of the sick must often determine the choice of both. Even when it is fully in our power, or left to us to choose, the inclination of the sick must be sometimes consulted and indulged, in both respects.

Decoctions of butchers meat, or of fowls; or soups; jellies of meat diluted, with barley, rice, oatmeal, or vermicelli, occasionally boiled in them—will be found very proper and beneficial. Sago, rice, falop, tapioca, panado, light puddings, Indian arrow-root, or lichen Islandicus, boiled, and admini-

stered with the addition of more or less wine, sugar, and spices, as may be thought proper, are pleasant and nourishing food.

Roasted, baked, or boiled apples, with wine and sugar, are also a pleasant change of food.

But the mode of dressing solid meat may be varied agreeably to the inclination of the sick.

CHAPTER VI.

A Brief Recapitulation.

IN the preceding observations on febrile infection, after some general remarks on fever, and the various doctrines concerning it; and the remote and exciting causes thereof; I have stated, previous to the indication for the treatment of febrile infection, the nature and effects of evacuants, when applied to the cure; the effects of particular remedies in curing it, especially of bark, wine, and opium; I have then made some observations on the general management inserted; the application of the management to the commencement; to the confirmed state; the more advanced state; also to particular symptoms; and lastly, mentioned the circumstances requiring particular attention in the treatment of febrile infection.

These are the objects laid before the reader, for his serious consideration and attention, in the preceding remarks.

I have now brought my observations and remarks on febrile infection to a conclusion. In delivering them, the reader will see that I have not been warped nor guided by the opinion or sentiments of any

teacher or writer whatever ; but, in plain language, have stated facts, and arranged them in my own manner—to represent them, according to my judgment, in the view that will make them most impressive.

I have said as little concerning the modes and doctrines of others, as I possibly could ; and what I have said has been more from a desire to elucidate the subject, than to cavil with, and reproach them.

The learned reader will, I trust, forgive the plain style in which I have written ; and the experienced reader will know how to appreciate the work at large, by comparing my observations with his own.

And I trust the young and inexperienced, for whose instruction they are calculated, will find in them a faithful guide. Of which, if I may hazard an opinion on this head, from the many assurances I have received of their utility in the service during the late war, and even in this—I cannot possibly entertain a doubt.

It is the privilege of sceptics to doubt and even to avow their doubts—more especially if they seriously intend to satisfy themselves and the public of the veracity or fallacy of the propositions or remarks of which they doubt, by candidly comparing them with observation and experience. And then it is incumbent on them to avow the issue fully, that others may be informed and judge for themselves likewise.

But professional men, who only choose to avow their scepticism in delivering their opinion, as well

as

as by their practice, without having any intention to do the authors of the propositions and remarks, of which they doubt, the justice to examine them by the only touchstones—observation and experience—which would remove their own doubts, and fully satisfy them of the validity and veracity of the reasons—most certainly not friendly to science.

When scepticism is thus applied to practice, the consequence is, that medicines which would have proved effectual had they been given in proper time, are delayed to be prescribed until they have no effect; and instead of fixing the blame where it ought to be fixed, upon their own dilatoriness, they are apt to lay it unjustly on the medicines, and especially upon those against which they entertain a prejudice. Cinchona, if delayed to be given in febrile infection until debility is far advanced, though administered now in the most judicious manner, will be found to act far more slowly than if it had been given liberally and early. But should debility be so far increased that the tone or digestive power of the stomach is so impaired as to be suspended, the proper time to have given it is perhaps irretrievably lost; and it will now lie inoffensively, though inertly upon the stomach. But its want of efficacy in all such cases is no more to be charged against the virtue and efficacy of cinchona to cure febrile infection; than the want of power in bread, meat, or any other species of food, to nourish and restore

restore a man who has been starved to the approach of death, could be charged fairly against them, as containing or possessing no nutritive property. The event of this practice in both cases is similar; i. e. neither bark in the one, nor any species of food in the other, can effect impossibilities. To fulfil both intentions, they must be given in due time, and in sufficient quantities.

The properties of bark have been found, and allowed by the generality of writers and practitioners, to be effectual in curing intermittents; but it has been positively interdicted, as if it had been deleterious, in continued fevers*, “because,” say “authors, of its phlogistic and constipating qualities.” But, admitting that it does possess these qualities, upon what principle is it, I beg to be informed, that they prescribe it in the simplest form and appearance of fever—intermittent fever—which, inasmuch as this form and appearance is nearer to the healthy state than the continued form of fever is—it is so much certainly nearer to the state of *sthenia*, or the inflammatory diathesis? I should be very glad to see this difficulty solved; because it seems to me impossible to reconcile the practice in the one form and appearance, with the interdiction in the other. For, on the contrary, it appears to me that the reason why bark has been

* I speak in compliance with custom.

found so effectual in curing intermittents is, that, the tone of the stomach being as yet little impaired, it is capable of digesting the cinchona; and also of being stimulated by the medicine. Or, in other words, that the vital energy or digestive power as yet is but little diminished, and that much less bark is required to repair the diminution. While the reverse obtains in continued fever. In this form, the vital energy being greatly diminished, much more of the medicine is required to act upon the stomach, and to restore the energy—the tone or digestive power of the stomach being so greatly destroyed, that it is proportionably less able to digest, and to be acted upon by the bark.—Consequently, the longer it is delayed, in any case of febrile infection, to administer proper means of relief, they must be administered under so much the greater disadvantage; the greater quantity of them will be required; and the longer they must be continued, to effect the cure.

Therefore, as the effects of cinchona, when administered to cure febrile infection, will always be in a *ratio* to the diminution of the tone and digestive power of the stomach; or of the vital energy, and general debility of the sick—and as the commencement of the fever is the period of the disease nearest to the healthy state, so this must consequently be the most proper and advantageous period to administer it for the benefit of the

the sick and credit of the physician. Then much less wine, or hyosciamus, or other adjuvant medicines, will be required in the cure.

Respecting the efficacy of bark, in curing febrile infection, I have already reminded the reader of such cases as are accompanied with incidental, or habitual, topical affections; that these affections are not to be disregarded and neglected. But on the contrary, while in prescribing for the fever, and I am endeavouring to fulfil the indication to cure it, I pay at the same time particular regard to the latter. But as such complex cases cannot be enumerated nor stated before they occur*, practitioners must discriminate them from one another, and manage them, according to the best of their judgment, upon the principle I have laid down.

There is one weighty difficulty, however, that I know may be ingeniously raised against the treatment I have proposed for febrile infection—which is, although practitioners should admit of its superiority to any other treatment, in what manner is febrile infection, they may say, to be treated in countries where neither cinchona, nor wine, nor opium, are known? To which I would answer, most certainly, by all the other articles of the tonic class which happen to be within our power. And I will venture to say, there is not a region on the

* Some of the most common I have taken notice of in Section VIII. of Chap. I. Part IV.

face of the earth that does not supply a number more of that class, besides those mentioned and cold affusion. But I might as well ask, how do mankind live, where neither bread, butchers meat, nor beer, nor wine, nor ardent spirit, are known? The rudest herds of men, in the most distant corners of the earth, have articles of food which answer all the purposes of nutriment and luxury which those do in this empire. Some macerate, pound, and make into lumps or cakes, one sort or other of grain, or of trees, or of roots, which they either boil or roast, in place of bread. All of them have their fish, or their wild fowl, or their venison, or the flesh of some animals, for meat; and they enjoy their unfermented wines, or their oils, instead of our intoxicating cordials. Should the medical readers unfortunately practice in the situation now alluded to, they will most probably meet with some medicines possessed of similar properties, I say, though perhaps in an inferior degree, to bark, wine, and opium.

But whatever be their situation, in their practice they should religiously abstain from the antiphlogistic or debilitating treatment, considering it a moral duty as well as more judicious and humane, to do nothing rather than to do mischief.

It will therefore be incumbent on us to remember that, throughout the remotest regions of the earth, wherever we practice, we have it in our power to fulfil the indication, deduced from observation
and

and experience; and we can no longer plead ignorance as to what is proper for the cure of febrile infection. Because, that, *Deo juvante*, fulfilling the indication will be found invariably successful, and therefore undoubtedly proper. I therefore repeat that, even refraining from the antiphlogistic treatment of fever—should the practitioner do nothing else—will be found a great improvement in the treatment of fever, comparatively speaking.

From what has been said, I trust the reader is fully convinced of the importance of the subject of febrile infection. In all ages and regions its influence has been felt. No rank, no age, nor sex, has been secure against it. It has set bounds to the ambition of the most proud and powerful monarchs. The emperor, as well as the meanest peasant of his realm, has sunk, or may sink under it, unless it is properly managed—so nearly are related the effects on the human constitution of extreme penury, and of affluence when abused. The one no less than the other debilitates, predisposes, and renders us liable to be afflicted with this universal disease. To guard against it, and its consequences, it is the interest of all men to steer, as much as possible, between these extremes. While moderation and temperance are incumbent on the one class; industry, sobriety, and cleanliness, are incumbent on the other: and should we, notwithstanding all
our

our care, be yet visited with the direful calamity, we have reason to thank God that he has furnished us with means to overcome it, if on our part we are but careful to make a timely and proper use of them.

With a view to enable the inexperienced reader to distinguish and obviate the disease, or when present to employ a suitable remedy to overcome it, these axioms are never to be lost sight of—
“ That febrile infection, or idiopathic fever, is
“ always and every where the same—That it always
“ is more or less infectious—That it originates
“ from a diminution of the vital energy which
“ maintains the equilibrium or healthy state of the
“ system—That the cure entirely depends on
“ restoring that diminished energy”—and “ That it
“ will be most speedily and effectually accomplish-
“ ed by the tonic method of treatment, which I
“ have so strenuously endeavoured to recommend
“ and to introduce, after many years observation
“ and experience.”—These are the objects or
axioms chiefly recommended, in the preceding
remarks, to the reader’s serious attention, I say ;
and I am fully persuaded, if they are adopted,
and universally practised, they will prove of infinite
advantage to my fellow-creatures in general, and
to this empire in particular, whose welfare is, as
it ought to be, my great concern. The prin-
cipal part of my time and labours have been
dedicated to their well-being ; and surely, next to
the

the consciousness of passing through the short term of our existence upon earth with the approbation of our great Creator, the pleasure of enjoying, and of being instrumental in communicating to others the enjoyment of, the best of all earthly blessings, health, constitutes the principal part of human happiness.

According to method, I should now insert the directions for the most effectual means of preventing febrile infection from spreading, when it is brought on board of ship—into a regiment, hospital, school or society—But, throughout my observations and remarks, I have been so copious on that part of the subject, that having thus anticipated it, I must refer the reader to them; and to the late Dr. Lind's book—"On the Preservation of the Health of Seamen."

PART IV.

ON THE OTHER DISEASES WHICH MOST FRE-
QUENTLY OCCUR TO SEAMEN.

CHAPTER I.

On the Scurvy.

ACCORDING to the method which I proposed to follow, I am now briefly to offer the unexperienced reader some directions for his guidance in the management of the other diseases which occur most frequently to seamen, and are therefore most deserving of his care and attention.

Next to febrile infection, scurvy is the most frequent, the most dangerous, and the most fatal, of the diseases which infest seamen.

But on this subject I have already been so full in the two preceding volumes; and so much has

been said on it by various writers, particularly by Dr. Lind, in his history of the disease—and as I shall in the fourth volume again have occasion to take notice of it, as one of the diseases old seamen are afflicted with, I will not trouble the reader with any further remarks on it at present, than to remind him that scurvy, when it comes under his care, is a disease arising from asthenia, or a cachectic state of the system; or, in plain words, arising from a debilitated state: and

That though proceeding from debility, and though very fatal, there is no proof whatever of its being contagious or infectious; nor is there any destructive disease to which mankind is subject that is more easily and speedily cured than scurvy, if it be well managed.

The citric acid is a certain cure for it. Wine, porter, cyder, perry, ale, beer, or wort, will cure it. Oranges and many other of the foreign fruits will cure it; and more especially ripe grapes. Sugar and treacle will cure it. Many of our own endemial fruits will cure it. Many of our own vegetables, especially when they are eat raw as a salad, will also cure it. Farinaceous substances in an acescent state, and various other articles of provision, will stop its direful career. Removing the sick from a confined situation to an airy one will also effectually check it. Besides,

Decoctions

Decoctions of various bitters, fermented after the manner I have pointed out in my directions to ferment cinchona, will be found a most efficacious remedy to check the scurvy, if not to cure it thoroughly.

So that the means for curing it are numerous: and those for checking it are still more numerous; of which, to those I have mentioned, may be added newly fermented milk.

Limbs rigid and contracted with scurvy have been perfectly recovered and restored to their use, by being immersed in fresh earth, in fields.

CHAPTER II.

On the Dysentery.

DYSENTERY is a frequent disease among seamen, and has been very fatal at times to many, especially in hot climates. No doubt has been entertained of its being infectious, I believe.

By many writers it has been erroneously considered a disease of *sthenia*—that is, arising from inflammatory diathesis—and modes of treating it accordingly pointed out by them. But the consequence of this treatment at all times has been so unfortunate as to prove *its* impropriety and *their* error.

The causes of dysentery, besides contagion or infection, are, chiefly, cold applied to the surface of the body, whether with wet or without it; the night air; thin clothing; intemperance, especially with new spirits; bad water; and sometimes an abuse of fish brings it on or induces it. These are the principal causes.

I have already described dysentery so accurately in the first volume of this work, that I need not take up the reader's time with any further description of it here.

I observed in the first volume, on the subject of dysentery, that I considered myself unfortunate in the treatment of my dysenteric patients, although I had closely imitated the practice of those who were chiefly looked up to, then, as the best guides.

I shall therefore now, after much longer and greater experience, lay down a few directions for young practitioners to manage dysentery.

If the patients are so wise as to complain immediately after they are seized with dysentery, it will be right to order one of the ipecacuan emetics *; and when the stomach is composed, after the operation of the vomit—to give them a calomel pill of—from four to ten grains, with an opiate—from half a grain to two grains, according to circumstance, or with hyosciamus †; and in an hour afterwards to give them half an ounce of No. VII. repeating it every half hour, until the first passages or the intestinal canals are thoroughly cleansed: and immediately after, whether it be bed-time or not, either throw up an anodyne injection ‡ or administer an opiate or a dose of the hyosciamus, according to circumstances.

Here the hyosciamus has a peculiar advantage

* See the Formulæ, in the Appendix.

† Ibidem.

‡ Ibidem.

over the opium—inasmuch as this never fails to constipate the bowels, which that never does.

The most eligible form to give opium in, however, to dysenteric patients, is the pulv. ipecacuan comp.—as in this form it is least likely to constipate the bowels:

The intention of administering the anodyne being not merely to abate the pain, and thereby to remove the spasmodic affection of the bowels; but more particularly to promote a full determination of the obstructed perspirable fluid matter from the intestines to the surface—which occasioned the disease—by the pores of the skin and the urinary discharge; it will be necessary to repeat the anodyne with ipecacuan or a small quantity of antimonial powder, with a view to keep up the perspiration until the patients are effectually relieved; which will be accomplished in some cases much sooner than in others. In the mean time, the sick may be frequently indulged with small quantities of tepid diluting drinks, such as the infusion of mint, barley-water, or oatmeal gruel.

But sometimes, to promote the perspiration, the warm bath may be requisite—about the 96° degree of Fahrenheit's thermometer.

When the sick are effectually relieved of the pain, spasm, and profluvia, great care to guard and defend them from fresh cold will be necessary—and I apprehend this cannot be done so speedily and effectually

effectually by any other means as by anointing the body with oil, and obliging them to put on next to the skin a flannel shirt.

Should the debility already occasioned by the disease, and by the manner of curing it, be so great as to require the having recourse to tonics—the decoction of bark, with eleutherium or zingiber, and an anodyne, at night, will be most proper. Wine prudently used will now also be of great service.

But when the sick have delayed to apply for assistance until the disease has been gaining ground for some days, perhaps, as too frequently is the case—when the stomach is become irritable, and probably a degree of chronic, or erysipelatous inflammation is excited by the pain, and spasmodic affection, occasioned most probably by the acridity of the serous exhalation from the inflamed surface—so that the inflammation or irritation, and the morbid exhalation, are kept up as it were by action and reaction—then the most lenient methods for soothing and composing both are to be immediately adopted.

With this view, omitting the vomit, I would recommend the anodyne purging pill to be given instantly; and instead of the chamomile cathartic, to give the castor oil an hour after it. And as soon as the bowels are thoroughly emptied, either to throw up the anodyne clyster, or to administer the anodyne by the mouth, repeating the one or the other occasionally, according to circumstances.

At the same time using the hot bath, or fomentations, leeches, cupping, and blisters; with bland, demulcent drink, as the patients crave it, and as their several cases require.

Observing, that in curing dysentery it must be an invariable rule to keep the sick in bed, with a view to promote and to maintain the perspiration until the cure is perfected. And it is also to be remembered that the bowels are to be kept pervious throughout the cure, by clysters or other gentle yet effectual means, as I have mentioned.

To perfect the cure, and to restore the tone of the intestines and of the general system, bitters will be highly necessary, as well as wine, and a restorative diet.

From the most attentive consideration to all the circumstances connected with dysentery, I am fully satisfied that it is, in the first instance, a local disease or affection only; and that by timely and proper care it may be prevented from becoming a disease of the general system. It's being infectious no more constitutes it a general disease, than tinea or pfora constitutes either of them a general disease of the system.

CHAPTER III.

Pleurisy, or Peripneumony.

BOTH those diseases occur amongst seamen, but not frequently.

The difference between them consists chiefly in the situation of the inflammation. That is to say, when the inflammation is confined to that part of the pleura which lines or covers the interior surface of the cavity of the thorax, it is then denominated pleuritis.

When the inflammation is extended to, or is in any part of the membrane which immediately invests the lungs, it is called peripneumony, or peripneumonia vera. There is, however no specific difference between these inflammations or diseases; though it is always pleasant, and indeed proper, to know where the seat of the disease is, when practicable—and it is known by the following symptoms.

When that part of the pleura which covers the inner surface of the thorax only is inflamed, it is called pleurisy; but more particularly when the pain is fixed in either side. The sick complain
first

first of a cold stage, succeeded by heat, thirst, anxiety, and severe fixed pain, which may be in any part of the lining membrane: though sometimes the pain shifts; and if it is in either side, they lie on the affected side; for the same reason, if it be seated under the scapulæ, they lie on their back; if in the mediastinum, they may lie, as I have seen in some instances, upon the face. A short frequent dry cough, increasing the pain, accompanies the disease. The pulse in the meantime varies, is quick, strong, and hard; sometimes vibrating like a cord. The excreta, in some cases, commence with the cough and disease, but in other cases they do not. They also vary exceedingly in consistence, colour, and quantity; at first generally they are thin or frothy, and gradually become thick and purulent, frequently streaked with blood. But sometimes the excreta brought up are bloody before the patient applies for assistance, or are livid. The breath is extremely foetid, if it happened that the patient's system was before scorbutic; which, indeed, renders it a very different case to pleuritis, and not to be confounded with it *. The quantity of excreta differs also exceedingly in different patients.

But when that part of the membrane which immediately invests the lungs is the seat of the disease, the pulse sometimes is quick, small, and hard; sometimes full and soft; and towards the fatal perio

* This is a caution not to confound pneumonic affection, which sometimes happens in scurvy, with pleuritis.

of the disease it becomes very quick, small, soft, and irregular. The pain is not violent, but when the patient inhales a full inspiration, it creates great uneasiness, and he breathes with particular caution. The countenance is flushed, especially the cheeks; and the eyes are inflamed. The head is affected with pain, confusion, and delirium. The thirst is great in peripneumony; there is a sense of great internal heat, and the breath or expired air from the lungs is hot. In this manner the sick are affected with peripneumony.

The larger the inflammation is, or the more space it occupies, either in pleurisy or peripneumony, the greater is the danger; and when, notwithstanding proper means are used to relieve, the symptoms continue or abate but for a short time, and return with more violence; when there is no laudable excreta; when inquietude comes on, and increases with delirium—when the patient can lie but on one side; or almost in an erect posture, (when the fever is violent); and when the breathing continues very difficult, and the countenance is bloated and flushed; when the pain, without abating, shifts to another place; the greater is the danger.

The reverse of those symptoms is critical, and foreshows a favourable termination.

When that portion of the pleura which covers the upper part of the diaphragm is inflamed, the disease is called *paraphrenitis*; when the pericardium and heart are inflamed, the disease is called *carditis*.

The

The remote cause of pleuritis or peripneumonia, generally, is cold, by which the obstructed perspiration is determined to the lungs; while at the same time they are also continually inhaling the cold air;—especially in constitutions predisposed to inflammatory diathesis. This also explains, why these diseases are most frequent in the winter and spring; more particularly in the latter, when changes in the atmosphere are most frequent. But, besides a cold atmosphere, whatever obstructs or injures the lungs, may occasion these diseases, at any period of life; though most commonly they occur between the age of puberty and sixty. Among athletic subjects, therefore, it is sometimes epidemic.

It terminates either in resolution, suppuration, gangrene, or in hæmorrhage

When it terminates in resolution, the patient recovers rapidly.

When it ends in suppuration, it brings on or leads to phthisis pulmonalis.

When it terminates in gangrene, (which I much doubt having ever happened), it destroys the patient suddenly, I make no doubt.

And when it ends in hæmorrhage, if the vessel is considerable, and pours out any quantity of blood, the patient is instantaneously suffocated.

In some cases, the quantity of serous fluid, or coagulable lymph, poured forth from the exhalants of the inflamed surface of the pleura, is so great

as

as to destroy the patient. This may be denominated the hydrops pectoris.

Sometimes the cavity of the thorax is lined with a soft pulpy white mucus, and sometimes the extravasated fluid becomes somewhat membranous, which forms an adhesion or connecting substance between the pleura and viscera together; the finer and thinner part of the exhaled fluid having been either taken up by the absorbents, and expectorated, or exhausted by the heat. The trachea and bronchia are sometimes lined with the same sort of pulpy or membranous-like matter. And the excreta appeared, during life, to be in all respects part of the same fluid *.

When it terminates favourably by resolution, the excreta are copious, somewhat purulent, brought up easily and without much pain, and perhaps streaked with blood. These occurring at the same time, with a remission of the fever and of the other symptoms, and when also accompanied by a copious, general perspiration, the sick are perfectly relieved. Sometimes a hæmorrhage at the nose; in some cases, the hæmorrhoidal discharge, or bilious stools; and a copious discharge of urine, with a plentiful sediment, remove the disease. An erysipelatous eruption on the skin, has been also observed to remove the inflammation.

* The remarks in the two preceding paragraphs are taken from the inspection of subjects who have died under my own observation.

When it terminates in suppuration, it is uncertain how many days it will require for that purpose. However, frequent slight cold shiverings foreshow the suppuration. A remission of the pain, with continuation or augmentation of the cough and dyspnœa, a more frequent pulse, and an exacerbation of the fever in the evening, are signs of suppuration having already taken place.

The cure requires a diligent perseverance in the antiphlogistic method.

Letting blood, at a large orifice, from the arm, repeatedly, in such quantities as the case may require. Purges or clysters, and sudorifics, are to be administered between the bleedings; and antimonials in small doses, with aqua ammonia acetata, or with kali neutralized and diluted, until the sick are perfectly relieved.

Young practitioners must remember, that in cases of sthenia, when they are letting blood, especially the first time, it is not uncommon for people to faint, and to bear every bleeding afterwards very well. Both leeches and cupping may also be very requisite and beneficial, after general bleedings become improper. Blisters may also be applied to the pained part. *Whatever drink is craved, should be frequently administered in very small quantity. It may be demulcent, subacid, or nitrous, or toast and water or cold water: the inhalation of warm vapor is sometimes very serviceable. When*
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the inflammation is entirely carried off, and any teasing cough remains, opiates are beneficial. The diet, if any is craved and administered, should be chiefly fluid farinaceous substances; or ripe fruits, when they can be had—either raw or dressed, according to the inclination of the patients.

CHAPTER IV.

Rheumatism

Is one of the diseases to which seamen are peculiarly subject. It arises from their getting often wet in boats ; from their being exposed to wet and cold upon the yards and about the mast heads ; i. e. from the nature of their duty *aloft* ; from their clothing not being sufficiently warm ; from their wearing their clothes wet ; and from sleeping about the decks or in the tops.

Acute and Chronic

Occurs in any season, especially if the weather be cold and wet, or stormy, but more frequently in autumn or spring.

It attacks people of different ages, though generally the young, the middle-aged, and particularly those of a sanguineous temperament.

The predisposing causes may no doubt be various, because, whatever can induce a state of *sthenia* or *asthenia* in the system, will predispose it for the correspondent

correspondent species of rheumatism. For instance, a vigorous, strong, athletic man will, upon getting wet or on being exposed to cold, be seized with the acute species; while a man debilitated by previous disease, or other means, or who is not naturally robust, will, from the same causes, be seized with the chronic rheumatism.

The proximate cause is supposed to be acrimonious humour; or lentor; but most probably is the same which occasions other inflammations.

Cold and wet applied to the joints may operate with more facility on their vessels, which are less covered with cellular membrane, than those of other parts; while at the same time they may produce a constriction of the vessels on the surface; and, by thus acting as a stimulus, induce an increased impetus of the blood, which terminates in inflammation and pain in the joints.

The further effect of cold and wet may, after the constrictive resistance is formed, excite the vis medicatrix to increase the impetus of the blood; while the cold stage and spasm support and produce pyrexia, when there is a phlogistic diathesis in the whole system.

Whether the explanation given be satisfactory or not; it is certain that acute rheumatism is accompanied with an inflammatory or phlogistic diathesis of the whole system—which points to the method of cure.

In this manner is rheumatism induced ; and whether it turns out acute or chronic will entirely depend on the state of the system antecedent to the proximate cause now related.

The manner in which the disease commences and advances, with the different symptoms and degrees of their violence—removes all doubt, with an experienced practitioner, whether the disease be acute or chronic ; or whether it be rheumatism or fever.

The definition of the acute, according to Cullen, is
 “ A disease from an external and for the most part
 “ an evident cause ; accompanied with fever, and
 “ pain about the joints following the tract of the
 “ muscles, infesting the knees and other great
 “ joints, rather than those of the hands and feet ;
 “ and increased by external heat.”

The chronic he describes—“ After rheumatism,
 “ a violent strain, or sub-luxation, pains of the
 “ joints, or muscles, increased by motion, flying
 “ more or less, and increased by any external heat ;
 “ the joints are weak, rigid, and frequently and
 “ readily become cold—without fever, and generally
 “ without tumor or swelling.”

The names given to it are five ; the species are seven, and the symptomatic species are forty-four*.

In acute rheumatism the patient is commonly seized at first with a cold stage, succeeded by heat,

* Vide Nosolog. Methodica Culleni.

the pulse full and hard, thirst, foul white tongue, countenance flushed and rather fuller than in health, with violent pain in one or more of the large joints, or in the loins; or in one of the pectoral, or in some of the intercostal muscles. The pain frequently shifts and returns to the same parts; and often occupies different parts at the same time. The fever and pains are generally worst in the night. The parts affected swell and have a red blush, and are then so tender that they cannot bear to be touched.

The paroxysm generally remits towards morning, with perspiration, and an evacuation of urine which is at first of a singular red colour, depositing little or no sediment—but gradually becomes less red, and deposits a copious lateritious sediment, which is always a favourable symptom, especially if plenty of this urine is made, and if accompanied with free perspiration, and an abatement of the symptoms. Sometimes the limbs are left in a paralytic state, and continue so a considerable time, after rheumatism: but I have never seen the inflamed parts suppurate: and

I have never lost a patient with rheumatism alone—but generally it has terminated favourably with my patients in a short time—though I have had some cases continue bad for several weeks, and become chronic at last.

Chronic rheumatism frequently proceeds from strains; or contusions.

The cure of acute rheumatism consists chiefly in antiphlogistic treatment: bleeding, therefore, is absolutely necessary; and perhaps a repetition thereof oftener than once may be requisite. But while letting blood is enjoined, a farinaceous diet, with diluting drink, must be rigidly adhered to—such as thin gruel, or very thin panado, barley-water; or toast and water, common tea, or sherbet.—In the meantime, purging and sweating must be attended to; both of which greatly relieve the patient. But it is very seldom that vomiting will be found proper. The hot bath is frequently of very great service in rheumatism.

The quantity of morbid fæces voided by the patients is astonishing, and shows that the natural functions of the abdominal viscera are very much disturbed, and participate greatly with the rest of the system in rheumatism of the morbid affection.

To purge the patients I commonly give from ten to twenty-five grains of the following powder:

R Pulv. R. jalap :

1 nitr. pur. ā ʒi.

Antimon. tartar. gr. i.

Sacchar. alb. ʒiss.

Ol. menth. pifs gtt. iv—x.

Aq. simp. ʒiii. ʒvi.

Tinct. jalap. ʒij.

Primo tere antimon. T. cum sacch. et oleo menth. pifs. & ol: postquam adde jalap, nitr. & iterumque

iterumque tere simul cui, gradatim adde R. jalap,
& aq. ut fiat mistura—stet in loco frigido bene
obthurata.

If this medicine is given in the quantity of from five to twenty grains in any convenient vehicle, it very often brings on a plentiful diaphoresis and discharge of urine, and empties the primæ viæ; to the great relief of the patient.—But sometimes it may be proper to give from two to five grains of the pulv. antimon. with the addition of an anodyne at bed-time; or the pulv. ipecac. C. every four, six, or eight hours, to promote perspiration, and diminish the febrile heat.

Until the fever is subdued or brought to distinct remissions through the day, which will not happen until the primæ viæ are thoroughly cleansed, nothing further than close attention to this method is necessary; and then the bark becomes proper.

While the inflammatory diathesis continues, topical applications, except leeches, and sometimes the affected part cannot be exposed to apply them, do no good—but when that is carried off they become useful—even friction alone does good, then. Various have been the applications* made use of—but they have all been stimulating or rubefacients, and the disease is sometimes so obstinate as to afford opportunity to try them all in succes-

* See the Formulæ.

sion, before the patient is relieved. Bathing with care in warm salt-water, has often relieved very obstinate cases ; and the cold bath afterwards may be proper, to brace up the patient. When the convalescents have an opportunity to ride on horse-back, they should pursue it daily : and they should wear flannel next their skin.

CHAPTER V.

Variolæ, or Small Pox.

THE small pox is not a disease peculiar to seamen, yet they are not exempted from it, and it occurs so frequently on board ships as to render them an object of serious and strict attention, as well for the purpose of endeavouring to render the disease mild, as to prevent their spreading amongst the people.

The general character of small pox I own is well known, though many young practitioners seem to be too little acquainted with them, to be able to distinguish them from some other diseases, until suppuration is advanced—a period too late to ascertain the disease, for the safety of the patient. Their not endeavouring to be fully acquainted with small pox, and perhaps other important diseases—may render them liable to be compared to procrastinators, respecting the facility with which they think they have it in their power to attain the knowledge at any time, until it is too late. Or, in other words, this disease comes so frequently under observation, that they either suppose they are perfectly well acquainted with it, or that they can at any time

learn all that is to be learned of it, until they find their mistake out. And, when too late, they have to learn what the disease is when they ought to be curing it.

Small pox is a disease *sui generis*, highly infectious and contagious, producing symptomatic fever for three or four days; followed by an eruption, which continues coming out for two, three, or four days, and mature or suppurate in four or five days more: so that about the 8th day from the commencement of the eruption, the pustules begin to burst or to break, to dry, and afterwards to desquamate or fall off in crusts.

But to be more particular. Of small pox there are two species—distinct and confluent, proceeding from the same variolous matter: i. e. the same variolous pus or matter will by inoculation or infection in one infected patient produce the distinct, and in another the confluent small pox: so that those distinctions depend on the constitution and management of the sick, and not on any differences of the infection.

But in order to discriminate between the two species, it is necessary to describe them separately, and to begin with the distinct.

The patients about to have distinct small pox, complain first of chilliness or rigors; which are followed by intense heat; with violent pain of the head and back; with vomiting; great propensity to

to sweating, in adults ; with pain, upon pressure, about the præcordia ; stupor and sleepiness : and frequently an epileptic fit among infants * immediately precedes the eruption.

On the 4th day of their illness—sometimes later, very seldom sooner, the small pox appear ; and then the febrile symptoms either abate greatly or disappear—except that in adults the propensity to sweat still continues, howsoever lightly covered they may be ; even until the pustules are matured. The eruption appears first on the face, neck, and breast, and then on the whole body. At this time they complain of pain in the throat.

About the 8th day from their being taken ill, the interstices of the small pox begin to grow red, to swell, and to give pricking pain in the face—next to the face, the hands and fingers swell.

The pustules, from being smooth and red, become rough and white, which is the first mark of maturation. The milder the small pox, and the more genuine they are, the nearer the colour of the interstices of the small pox are to the damask rose. The rougher and more yellow that the pustules become daily in the face, those on the hands and the rest of the body swell, mature, and become smoother, with a very slight depression in the

* A convulsive fit precedes a favourable sort—it is generally remarked.

centre—which disappears when the maturation is complete, and before they become rough.

On the 11th day * the pustules of the face, as well as the rest of the body, having attained their maturity, the swelling and inflammation begin to subside, and the pustules having acquired a yellowish cast, and the pus contained in them having become more opaque, they begin to burst, dry, and fall off; and on the 14th or 15th day, they for the most part entirely fall off the face. Throughout the disease the sick are generally costive. But infants' bowels are relaxed.

The confluent, besides the symptoms which they have in common with the distinct small pox, only in a more violent degree, are accompanied with symptomatic fever, that continues, especially towards night, after the eruption is even completed; with debility; anxiety, sickness and vomiting; by which symptoms, an experienced practitioner can foretel the eruption will be confluent. Nevertheless, the sick are not so prone to sweating in this as they are in the distinct species; and sometimes a diarrhœa precedes the confluent, which is never observed to precede the distinct.

The eruption sometimes happens before, but hardly ever after the third day, unless some violent

* From the commencement of the illness.

symptom, such as very acute pain in one part or other, prevents it. Whereas the eruption of the distinct happens on the fourth day. In the confluent likewise it is observed that, after the eruption, the fever and other symptoms continue, which is not the case in the distinct.

The first appearance of the eruption often resembles erysipelas or measles. But when matured, they are of a brownish appearance. It is not unusual for the skin to drop off in many parts, as if it had been an eschar in consequence of a caustic application. The confluent goes through its stages slower than the distinct.

The violence of, or the degree of danger arising from the disease, is not to be estimated from the number of pustules covering the body, but from the number on the face and about the head and throat, and their confluency. On the contrary, if they are few and distinct on the face, head, and about the throat, the danger is little, though they should be very numerous on the body and extremities.

There are two other symptoms which accompany this sort, of as great importance as any yet mentioned; and those are, the salivation in adults, and the diarrhœa in infants.

The former commences the first, second, or third day; and continues similar to the salivation excited by mercury, until the 11th day after the eruption,

eruption, when it lessens with the tumor of the face ; and then the arms and hands begin to swell. After this swelling subsides, the lower extremities swell in the same manner, and the suppuration of the pustules advances on both extremities favourably while they are swelled.

The fever in both species continues from the first attack of the disease until the eruption, when it disappears in the distinct, but with only some mitigation in the confluent sort, in the day-time, during the maturation.

When the disease is violent, there is always an exacerbation of the fever and other symptoms towards evening.

In the distinct species, the 8th day * is the most critical ; and in the regular confluent, the 11th day. These days ought therefore to be carefully attended to by practitioners. But in some unfavourable cases the gradations are much slower.

On the 8th day of the distinct, the swelling of the face and the redness of the interstices of the pustules have attained their acme. And on the 11th day of the confluent, the swelling of the face, which succeeded the salivation, has attained its height ; then succeeds the swelling of the upper, and at last that of the lower extremities. Otherwise, the sick perish. Phrenitis, coma, petechiæ ;

* From the commencement of the eruption.

bloody urine, hæmoptoe, suppression of urine, and diarrhœa, in adults, are all symptoms showing great danger.

The method of treating small pox is so generally known to be the antiphlogistic, with the admission of cool air, or to carry the sick into it; and to give an anodyne every night; that nothing need be said on the subject. However, it is to be recollected, that in some cases the cordial and stimulating plan, comprehending anodynes and vesicatories, may be absolutely necessary; and to distinguish those confluent cases must be the task of the diligent and attentive practitioner. I have mentioned before that I have been obliged to administer the bark freely, throughout the disease.

CHAPTER VI.

On Morbilli, Rubeola, or Measles.

THIS is a disease of the class Pyrexia, and order Exanthemata. This disease I have frequently met with on board ship; and I have had occasion to lament, in my official situation, that it is one of those diseases to which young practitioners have not thought worthy of much attention. I found it necessary therefore to warn them of the consequences of this indifference, because it is a disease often attended not only with danger, but always infectious.

When properly attended to, however, from the beginning, it passes through its different stages, like the distinct small pox, with safety to the patients.

The measles is also one of the diseases which have been described by many authors: but as it may occur to a number of the young practitioners who have not convenience for libraries, I shall insert its description from Sydenham, (who has furnished the most accurate history of this disease, of any author I know) as it is probable this work will

will fall into the hands of more of the young practitioners in the public service, than the works of Sydenham will.

He observes that the disease begins in the beginning of January, and disappears in July. So that it may occur any time between these periods. Certain it is, that in the month of July I have met with it in the British Channel, and on the Banks of Newfoundland, as may be seen in the preceding parts of this work. But on board the *Edgar* they occurred even in October, November, and December.

“ It chiefly attacks the young. It comes on
“ with a chilliness and shivering, and an inequality
“ of heat and cold, which succeed alternately,
“ during the first day. The second day these ter-
“ minate in a perfect fever, attended with vehement
“ sickness; thirst, loss of appetite, the tongue
“ white, but not dry; a slight cough; heaviness
“ of the head and eyes, with continual drowsiness;
“ a humour also generally distils from the nose and
“ eyes, and this effusion of tears is a certain sign of
“ the approach of measles; whereto must be added
“ as not less certain, that though this disease mostly
“ shows itself in the face by a kind of eruptions,
“ yet, instead of these, large red spots, not rising
“ above the surface of the skin, rather appear in
“ the breast; the patient sneezes as if he had taken
“ cold; the eyelids swell a little before the erup-
“ tions;

“ tions; he vomits, but he is more frequently
 “ affected with a looseness, attended with greenish
 “ stools: but this happens chiefly in children dur-
 “ ing dentition, who are also more fretful in this
 “ distemper than ordinary. The symptoms usually
 “ grow more violent, until the fourth day, at
 “ which time generally little red spots, like flea-
 “ bites, begin to appear in the forehead and other
 “ parts of the face, which, being increased in num-
 “ ber and bigness, run together, and form large
 “ red spots in the face, of different figures; but
 “ sometimes the eruption is deferred until the fifth
 “ day. These red spots are composed of small
 “ red pimples, seated near each other, and rising a
 “ little higher than the surface of the skin, so that
 “ they may be felt upon pressing them lightly with
 “ the finger, though they can scarce be seen. From
 “ the face, where only the first appear, these
 “ spots extend by degrees to the breast, belly,
 “ thighs and legs. But they affect the trunk and
 “ limbs with a redness only, without perceptibly
 “ rising above the skin.”

“ The symptoms do not abate here upon the
 “ eruption, as in the small pox; yet I never found
 “ the vomiting continue afterwards; but the cough
 “ and fever grow more violent, the difficulty of
 “ breathing, the weakness of and defluxion of the
 “ eyes, constant drowsiness, and loss of appetite,
 “ persisting in their former state. On the sixth,

“ or

“ or thereabouts, the eruptions begin to dry, and
“ the skin separates, whence the forehead and face
“ grow rough ; but in the other parts of the body
“ the spots appear very large and red. About the
“ eighth day those in the face vanish, and very
“ few appear on the rest of the body.”

But, in the note at foot of the page 162 of Swan’s translation of Sydenham’s works, whence the preceding quotation is transcribed, it is said,
“ that the eruptions vanish in four or six days from
“ their first appearance, in most subjects, unless
“ the disease happens to be of a very malignant
“ kind.”

“ Those who die of the measles ordinarily perish
“ on the ninth day, by suffocation.

“ The dangerous symptoms in this distemper are
“ great loss of strength, coldness of the extremi-
“ ties, restlessness, violent vomiting, and continual
“ cough and looseness, difficult deglutition, a de-
“ lirium, convulsions, and profuse sweat, espe-
“ cially in persons advancing in years.”

It is to be particularly remembered, that the most dangerous symptoms—after the measles disappear, and have gone through their regular stages—arise from pneumonic, or peripneumonic affections.

The manner of treating the measles ought to be the same as in the small pox—antiphlogistic—adapting the degree thereof to the several cases.

In every stage of measles the patient ought to be kept no hotter than if nothing ailed him; but to breathe the same temperature of air. Every night an anodyne will be highly proper to allay the cough.

After the desquamation, purging will be as necessary and proper as after the small-pox.

CONCLUSION.

IN the preceding part I have briefly stated, for the information of young practitioners, the appearances of, and manner of treating the other diseases which seamen are most generally afflicted with.

In doing this it was not my intention to deliver a formal treatise on any of them; several of these diseases, particularly scurvy and dysentery, having been described at length in the preceding parts of the work.

To have touched even briefly upon all the diseases with which seamen may be, or have been at times attacked; it would have been necessary to have furnished a general praxis of physic. Because they are in common with other men liable to be afflicted at sea with perhaps all the same diseases that they are. I have thought it sufficient, therefore, to confine my attention in the work to the diseases which not only are most common, but have been found most destructive to seamen.

APPENDIX.

IN the Formulæ, I have designedly been more particular than was necessary for the skilful reader; but young and inexperienced practitioners, for whose assistance the work is designed, when they have many cases of febrile infection under their care, will think otherwise. To those gentlemen, in such situations and circumstances as many of them practise under, a few elegant prescriptions would have been as useless and have answered no better purpose than so many toys.

In the Latin Formulæ I have employed the Nomenclature introduced in the last edition of the *Pharmacopœia Londinensis*, and subjoined the old names in notes. In the translation of the Formulæ I have retained the old names, chiefly for the convenience of the English reader. The

quantities of each article I have endeavoured to adapt, as well as the doses, to the different sexes, their ages, and constitutions; and, having so extensive an object in view, I hope inaccuracies will meet the learned reader's indulgence. It is to be understood that the doses are generally calculated for an adult.

The former Appendix is now enlarged with the directions for preparing the fermented bark, which I doubt not will be acceptable to the reader; and with the various attempts of the Author to obtain for the Naval Medical Department the same rank and encouragement as that of the Army enjoys;---besides a copious Index for the first three volumes.

FORMULÆ.

- No. I. R Pulv. rad. ipecacuanhæ gr. i.—x.
 Aq. simplic. ℥iii.—℥iss.
 M. fiat haustus emeticus.
- II. R Pulv. rad. ipecacuanhæ gr. i.—xv.
 Aquæ ferven. coch. i.—iv.
 In vase clauso per minutas viginti infunde, & cola, pro haustu emetico.
- III. R Pulv. rad. ipecacuan gr. i.—x.
 Conserv. cynosbat.
 Fiat bolus emeticus.
- IV. R Vin. ipecacuan. ℥i—℥iss.
 Pro haustu emetico ex quovis vehiculo.
- V. R Antimon. tartarisati * gr. i.—iv.
 Aquæ simp. ℥viii.
 Fiat emetica solutio ;

* Tartar. emet.

Cujus cochlearia parva duo, vel cochleare unum largum, dimidia quaque hora, usque ad vomitionem, hauriat.

VI. R Sal. cathart. amar. \mathfrak{z} iv. solve in
Aq. fervent. \mathfrak{lb} ss.

Cochleare unum capiat, & dimidia quaque hora repetendum, donec alvi bis terve respondeant.

Mistura. cathartica chammel.

R Aq. distill \mathfrak{lb} i.

Fol. fenn. \mathfrak{z} ss.

Sal. cath. am. \mathfrak{z} ij.

Flor. chamomel. m. j.

Sem. coriand. cont. \mathfrak{z} ij. coque & cola.—adhibenda eodem modo ut

No. VI.

VII. R Infusi fennæ simp. \mathfrak{z} ss.— \mathfrak{z} ii.

Natron. vitrol.* vel.

—— tartarifat. † \mathfrak{z} ss.— \mathfrak{z} i.

Mannæ \mathfrak{z} iii.—vi.

Fiat haustus catharticus.

VIII. R Calomel. gr. i.—xii.

* Sal cath. Glaub.

† Sal Rupell.

Conserv. rofar.

Fiat bolus purgans. Vel

R Pilul. colocynth. C. gr. xv.—3 fs.

Calomel. gr. i.—iv.

M. pro dose una.

IX. R Pulv. rhabarb. Russ.

Nitri vitriolat.* ā ʒj—3i.

Fiat pulvis catharticus. Vel

R Pulv. rad. jalap.

Sal. nitri. ā gr. x.—3 fs

Tinct. jalap. 3i.—3 fs.

Aq. menth. pip. 3 fs.—3 ii.

M. pro haustu purgante. Vel

R Gummi Guaiac. gr. x.—3 fs.

Pil. aromat. vel aloes eam myrrh

gr. x.—ʒ i.

Syr. de cort. aurant. 3i.—3 ij.

Fiat bolus catharticus. Vel

R Tinct. sennæ, 3 ij—3 i. vel

—— rhabarbar. vel

Vin. rhabarb. 3 fs.—3 ii.

Pro haustu aperiente.

* Sal polychrest.

- X. R Solutionis (No. VI.) ℥ii.
 Pulv. rad. ipecacuanhæ gr. v. —x.
 M. fiat emetico-catharticum.
- XI. R Haustus (No. VII.), vel
 Tincturæ fennæ ℥fs.—℥ij.
 Vini ipecacuanhæ ℥iii. to ℥fs.
 M. pro emetico-cathartico.
- XII. R Solutionis (No. V.) ℥fs.—℥ifs.
 Spirit. cinnam.* ℥i.—vi.
 Tinct. opii† gtt. vii.—xl.
 M. fiat haustus fudorificus.
- XIII. R Aquæ ammoniæ acetatæ ℥i.—℥vi.
 Syrupi papaver. alb. ℥i.—xvi.
 Sp. lav. comp. ℥fs.—℥ij.
 Aq. cinnamon. ℥j.
 M. pro haustu diaphoretico.
- XIV. R Spirit. æther. nitrosi, ‡ ℥fs.—℥ij.
 Liquor. vol. c. c. || ℥fs.—℥ij.
 Tinctur. opii ā gtt. x.—xl.
 Vini alb. ℥ii.—℥ii.
 M fiat haustus fudorificus.

* Aq. cinnamon. sp.

† Tinct. thebaica.

‡ Nitri dul.

|| Sp. c. c.

XV. R Sal. corn. cerv. gr. i.—gr.— \mathfrak{z} i.

Opii pur. gr. $\frac{1}{2}$ —ad gr. ij.

Conserv. cynosbat. q. s.

Fiat bolus sudorificus.

XVI. R Pulv. cort. Peruv. opt. \mathfrak{z} ii.

Aq. simp. \mathfrak{lb} iss.

Fiat mistura.

Dosis \mathfrak{z} iii.— \mathfrak{z} ii.

XVII. R Pulv. cort. Peruv. opt. \mathfrak{z} iii.

Aq. frigidæ (vel ferventis, ut visum)

\mathfrak{z} xxx.

Infunde, per horas octo, in vase clauso, mistura subinde agitata; dein cola.

Dosis \mathfrak{z} ii.— \mathfrak{z} ii.

XVIII. R Pulv. cort. peruv. \mathfrak{z} iii.

Aq. simp. \mathfrak{lb} iiss.

Coque, in vase clauso, per minutas decem; & cola.

Dosis \mathfrak{z} ii.— \mathfrak{z} ii.&

Ad dosin primam Ni. XVI. XVII. XVIII.

si visum sit, unam vel plures de medicinis sequentibus adde:

Sal. cathart. amar. - \mathfrak{z} ss.— \mathfrak{z} i.

Natron.

Natron. preparat.*	-	gr. x.—3vi.
—— tartarifat.	+	3ii.—3i.
—— vitriolat.	-	3ii.—3i.
Kali tartarifat. †	-	3ij.—3i.
Nitri vitriolat.	-	3i.—3ii.
Mannæ	-	3fs.—3ij.
Pulv. rhabarb.	-	gr. x.—3i.
—— jalap.	-	gr. x.—3i.
Nitri puri	-	gr. x.—3fs.
Spirit. æther. nitrosi		3i.—ii. 5
—— vitriolici comp. ‡		3i.—3ii.
—— ammoniæ comp. §		3i.—3ii.
—— ætherii gtt. x.		—xxx
Tinctur. opii	-	gtt. xx.—3fs
Pulv. ipecacuan. comp.		gr. x.—3ii.
Antimonii tartarifati		gr. $\frac{1}{4}$.—ad gr. iv.
Pulv. contrayerv.	-	gr. x.—xxx.
—— cort. Cascarill.		gr. x.—3i.
—— sal ammon. crud.		gr. v.—3fs.
—— rad Columb.	-	gr. x.—3i.

* Sal sodæ † Tartar. solubil.

‡ Sp. vit. dulce. § Vol aromat.

|| Pulv. Doveri, fere.

Pulv.

Pulv. cort.* St. Luciae gr. x.—xxx.

——rad serpentar. gr. x—3ss

Elix vitriol.—ad gratum saporem; vel

Spirit. fal.—ad gratum saporem; vel

acid nitric. ad gratum saporem

XIX. R Pulv. cort Peruv. 3ii.

Syrup. croci, q. s.

Fiat electuarium;

Dosis cochleare parvum;

Cui, ut visum, unam vel plures medicinarum sequentium adde sing. dos.

Rasur. ferri recent. - 3ss.—3iss.

Rubig. ferri, dosis - gr. vi.—3ss.

Ferri vitriolati† - - gr. i.—gr. vi.

Confect. opiat. ‡ - gr. x.—3ss.

Pulv. aromat. § - - gr. v.—gr. x.

XX. R Pulv. cort. Peruv. gr. v.—3ii.

Aq. cinnamom.

Vini alb. ā 3ii.—3i.

Fiat haustus,

* Augustur. quassia.

† Sal Martis.

‡ Pro theriaca androm. philon. confect. damocrat.

§ Spec. aromat.

XXI. R

XXI. R Pulv. cort. peruv. gr. v.—ʒii.

Vin. alb. ʒii.—ʒii.

M. pro haustu.

XXII. R Pulv. cort. Peruv. ʒii.

Sp. arden. ʒii.—ʒvi.

Sp. C. lavend. ʒii.

Aq. menth. ʒxviii.—xxii.

Fiat mistura ;

Dosis coch. i.—cochlear. iv.

XXIII. R Pulv. cort. Peruv. gr. x.—ʒfs.

Sal corn. cerv. v. gr. ii.—xx.

Opii pur. gr. fs.—ii.

Syrup. croc.

Fiat bolus ;

Cui, pro re nata, adde, ut visum :

Camphor. gr. iij.—ad ʒi.

Mofch. - gr. ii.—xx.

Alumin. - gr. v.—ʒfs.

Myrrh. - gr. x.—ʒi.

Gum. Guaiac. ʒfs.—ʒi.

XXIV. R Tinctur. opii gtt. v.—xl.

Vin. alb. ʒiii.—ʒifs.

Syr. croci ʒii.

Fiat

Fiat haustus.

XXV. R Tincturæ cort. Peruv. comp.* ʒi.—vi.

———— opii gtt. v. xl.

Sp. C. lavendul. ʒi.

Aq. menth. piperitid. ʒss. —ifs.

M. pro haustu.

XXVI. R Spirit. nucis moschat. ʒi.—ʒss.

Tinct. cort. Peruv. comp. ā ʒi.—ʒss.

———— opii gtt. v.—xl.

Syr. croc. ʒii.

Aq. menth. ʒss.—ifs.

Fiat haustus.

XXVII. R Tinct. cinnamom. ʒi.—ʒss.

———— opii gutt. v.—l.

Aq. cinnamom. ʒi.—ʒiv.

M pro haustu.

XXVIII. R Kali pt.† gr. x.—ʒss.

Tinctur. opii gtt. v.—l.

Aq. cinnamom. ʒss.—ʒifs.

Tinctur. cinnamom. ʒi.—iii.

Fiat haustus ; cui, ut visum, adde

* Tinct. cort. Peruv. Hux.

† Sal absinth.

Succi limon. recent. cochleare unum;
pro haustu, in actu effervescentiæ,
deglutiendo.

XXIX R Pulv. cort. Peruv. ʒi.—ʒi.
Juscul. vervecin. ʒii.—x.
M. fiat clyfma.

XXX. R Pulv. cort. Peruv. ʒss.—ʒiv.
Vin. (vel
Spirit. arden. vel
Acet. vel
Jusculi) q. s.
M. fiant cataplasmata.

XXXI. R Pulv. cort. Peruv. ʒi.—iv.
Aq. simp. (vel.
Sp. arden. et aq. simp. ā ℥i.—℥ii.
vel
Vini) ℥ii.—iv.
Coque, in vase clauso, per minutas
decem, pro fotu; & coletur si
visum.

XXXII. R, Pulv. cort. Peruv. ʒiv.—xvi.
Aquæ simp. cong. ii.—viii.
Coque (ut in No. XXXI.) *pro balneo.*

Decoctum

Decoctum coletur ; et, si visum, addantur.

Vini ℥i.—iv. vel

Spirit. arden. ℥ss.—℥ li.

M.

XXXIII. R Tinct. opii,

Spirit. ætheris vitriolici comp.

— ammoniæ comp, ā gtt. v.—l.

Tinctur. cinnamom. ℥ss.—℥iss ; vel

Hauftus (No. 21), vel

Mistur. (No. 22), ℥ss.—℥ii.

M. pro haustu.

XXXIV. R Mistur. (No. 16), vel

Infus. (No. 17), vel

Decoct. (No. 18),

Aëre fixibili impregna, bis, terve,

quaterve ; & in phialis bene ob-

turatis servetur. Dosis ℥ss.—℥ii.

XXXV. R Pulv. cort. Peruv. ℥ii.

Vini ℥iiss.

Fiat mistura, aëre fixibili (ut 34) impregnanda. Etiamque dosis idem.

XXXVI. R Infusi cort. (No. 17), ℥iii.—℥ii.

Tinctur. opii camphor. gtt. x —lxxx.

Tinctur. cantharidum gtt. v.—xxxv.

Syrup. althææ ℥ii.

Fiat haustus; cui, ut visum, adde

Kali tartarifati gr. x—℥iii.

XXXVII. R Mistur. (No. 16), ℥iii.—℥ii.

Tinctur. aloes * C. dosis ℥fs.—℥ij.

Lixivii sapon. gtt. iii.—xxx.)

Spirit. nucis moschat.† ℥i.

Fiat haustus.

XXXVIII. R Electuar. (No. 19) cochlear. parvum.

Al. focotrin. gr. v.—xxx.

Calomel. pp. gr. i.

M. fiat bolus.

XXXIX. R Decoct. cort. (No. 18) ℥fs.—℥ii.

Pulv. alumin. gr. v.—℥i.

Infus. vel tinctur. rosæ. ad gratum
saporem.

M. fiat haustus.

* Elixir aloes. † Aq. nucis moschat.

A
TRANSLATION
OF
THE PRESCRIPTIONS.

NO. I. TAKE of Powder of ipecacuan from
one to ten grains ;

Simple water, from one to four
spoonfuls :

Make a draught.

II. Take of Powder of ipecacuan (as in No. I.) ;

Boiling water (as in No. I.):

Infuse in a close vessel for twenty
minutes, and pour off the clear,
for a draught.

- III. Take of Powder of ipecacuan, as in No. I.
and, with
Conserve of hips,
Make a bolus.
- IV. Take of Ipecacuan wine from one drachm
to half an ounce,
For an emetic draught.
- V. Take of Antimony tartarised * from one
to four grains ;
Simple water eight ounces :
Make a solution ;
Of which, from two tea-spoonfuls
to one table spoonful is to be
taken every half hour until
the patient vomits.
- VI. Take of Bitter purging salts four ounces ;
Boiling water, half a pint :
Make a solution ;
One table spoonful to be given
every half hour till it operates.
- Take of Senna leaves half an ounce.
Bitter purging salts two ounces.

* Emetic tartar.

Camomile flowers one handful.

Coriander seed bruised two drachms.

Distilled water one pound.

Boil for a little and strain.

VII. Take of Infusion of fenna from one to
four table spoonfuls ;

Glauber purging salts, or

Rochelle salts, from half an
ounce to one ounce ;

Manna from three to six drachms :

Make a purging draught.

VIII. Take of Calomel from two to twelve
grains ;

Conserve of red roses :

Make a purging bolus. Or,

Take of Colycynth pill from fifteen grains
to half a drachm ;

Calomel prepared, from one to
four grains :

Mix for one dose. Or,

Take of Gum guaiac from ten grains to
twenty ;

Aromatic pill, from ten grains to

twenty ; with

Syrup of orange peel

Make a purging bolus.

IX. Take of Powder of Russia or Turkey
rhubarb, from ten to sixty
grains ;

Sal polychrest, from ten to sixty
grains :

Make a purging powder. Or,

Take of Powder of jalap, from ten to forty
grains ;

Salt of nitre, from ten to forty
grains ;

Tincture of jalap, from one drachm
to half an ounce ;

Peppermint water, from half an
ounce to two ounces :

Make a purging draught. Or,

Take of Tincture of fenna, from two
drachms to an ounce, or

———— rhubarb, from half
an ounce to two ounces, or

———— wine rhubarb, from
half

half an ounce to two ounces.

For an opening draught.

- X. Take of Solution (No. VI.) two ounces ;
Powder of ipecac, from five grains
to ten :

As an emetic-purging draught.

- XI. Take The draught (No. VII.) ; or of
Tincture of fenna, from half an
ounce to two ounces ;
Ipecacuan wine, from one drachm
to half an ounce :

As an emetic-purging draught.

- XII. Take of Solution (No. V.) from half
an ounce to one ounce and a
half ;
Spirit of cinnamon, from one to
fix drachms ;
Tincture of opium, from ten to
fifty drops :

For a sudorific draught.

- XIII. Take of Mindererus spirit, from one
to fix drachms ;
Syrup of white poppies, from one

to sixteen drachms ;

Compound spirit of lavender, from

half a drachm to two drachms :

Cinnamon water one ounce.

Make a sudorific draught,

XIV. Take of Spirit of nitre dulcified, from

half a drachm to two drachms ;

———— hartshorn, from half

a drachm to two drachms ;

Tincture of opium, from ten to

forty drops ;

Wine, from two drachms to two

ounces :

Mix for a sudorific draught.

XV. Take of Salt of hartshorn, from one

grain to twenty ;

Pure opium, from half a grain to

two grains ; with

Conserve of hips :

Make a sudorific bolus.

XVI. Take of Powder of best Peruvian bark,

two ounces ;

Simple water, twenty-four ounces :

Make a mixture. The dose from

one

one to four spoonfuls.

XVII. Take of Powder of bark * three ounces ;

Cold or boiling water, thirty ounces ;

Infuse ten hours in a close vessel, shaking it now and then, and strain.

The dose from two drachms to two ounces of the infusion.

XVIII. Take of Powder of bark three ounces ;
Simple water, two pounds and a half :

Boil in a close vessel for ten minutes, and strain the decoction.

The dose from half an ounce to two ounces.

To the first dose of numbers XVI.

XVII. and XVIII. one or more of the following medicines may be added, as the physician thinks proper :

* The best is always understood.

Bitter purging salts, from half an ounce to one ounce ;

Sal fodæ, from ten grains to two drachms, or

Rochelle salts, from two drachms to an ounce, or

Glauber salts, from two drachms to an ounce ;

Soluble tartar, from two drachms to an ounce ;

Sal polychrest, from one to two drachms ;

Manna from half an ounce to two ounces ;

Powder of rhubarb, from ten to sixty grains ;

———— jalap from ten grains to one drachm ;

———— nitre, from ten to thirty grains ;

Spirit of nitre, dulcified, from half a drachm to two drachms ;

———— vitriol, dulcified, from one to two drachms ;

———— volatile

———— volatile aromatic, from
half a drachm to two drachms ;
Hoffman's anodyne liquor, from
half a drachm to two drachms ;
Tincture of opium, or liquid lau-
danum, from sixty to a hun-
dred and eighty drops ;
Compound powder of ipecacuan,
from ten to forty grains ;
Tartar emetic, from one-fourth
of a grain to four grains ;
Powder of Contrayerva, from ten
to thirty grains ;
———— Cascarilla bark, from
ten grains to a drachm ;
———— ammonia salt, from
five grains to half a drachm ;
———— Columba, from ten to
sixty grains ;
———— St. Lucia bark, from
ten to twenty grains ;
———— snake root, from ten
grains to half a drachm ;
Elixir of vitriol, or

Spirit

Spirit of sea salt, to make the
medicine agreeably acid.

XIX. Take of Powder of Peruvian bark two
ounces ; with

Syrup of saffron or ginger

Make an electuary.

The dose a tea-spoon full. To
which may be added occasion-
ally one or more of the follow-
ing medicines :

Fresh filings of iron, from half a
drachm to a drachm and a half ;

Rust of iron, from six to thirty
grains ;

Salt of steel, from one to six
grains ;

Opiat confection, from ten grains
to half a drachm ;

Aromatic powder, or spices, from
five to ten grains.

XX. Take of Powder of Peruvian bark from
five grains to two drachms ;

Cinnamon water,

White wine, of each from two
drachms

drachms to one ounce :

Make a draught.

XXI. Take of Powder of bark from five grains to two drachms ;

White wine, from two drachms to two ounces :

Mix for a draught.

XXII. Take of Powder of bark two ounces ;
Spirit (brandy, rum, or gin)
from two to six ounces ;

—— of lavender (compound),
two drachms ;

Mint water, from eighteen to twenty-two ounces ;

Make a mixture. The dose from one to four spoonfuls.

XXIII. Take of Powder of Peruvian bark
from ten to thirty grains ;

Volatile salt of hartshorn, from two grains to twenty ;

Opium, from half a grain to two grains ; with

Syrup of saffron

Make

Make a bolus.

To which (instead of the salt of hartshorn)
may be occasionally added one or more
of the following medicines :

Camphor, from three to twenty grains ;

Musk, from two to twenty grains ;

Alum, from five grains to half a drachm ;

Myrrh, from ten grains to a drachm ;

Gum guaiac, from thirty to sixty grains.

XXIV. Take of Tincture of opium from
five to forty drops ;

White wine, from three drachms
to an ounce and a half ;

Syrup of saffron, two drachms :

Make a draught.

XXV. Take of Huxham's tincture of bark
from one to six drachms ;

Tincture of opium, from five to
forty drops ;

Compound spirit of lavender, one
drachm ;

Peppermint water, from four to
twelve drachms :

Mix for a draught.

XXVII. Take

XXVI. Take of Spirituous nutmeg water,
from a drachm to half an
ounce ;

Huxham's tincture of bark, from
one drachm to four ;

Tincture of opium, from five to
forty drops ;

Syrup of saffron, two drachms ;

Mint water, from four to twelve
drachms :

Make a draught.

XXVII. Take of Tincture of cinnamon from
one to four drachms ;

Tincture of opium, from five to
fifty drops ;

Cinnamon water, from an ounce
to four ounces :

Mix for a draught.

XXVIII. Take of Salt of wormwood or tartar
from ten to thirty grains ;

Tincture of opium from five to
fifty drops ;

Cinnamon water, from four to
twelve drachms ;

Tincture

Tincture of cinnamon, from one
to three drachms :

Make a draught ;

To be mixed with one spoonful of fresh
lemon juice; and to be drank in a
state of effervescence.

XXIX. Take of Powder of bark from one to
eight drachms (an ounce) ;

Mutton broth, from two to ten
ounces :

Make a cataplasin.

XXX. Take of Powder of bark from half
an ounce to four ounces ;

Wine or

Spirit (as in No. XXII.), or

Vinegar, or

Broth, enough to make a mass
for cataplasins.

XXXI. Take of Powder of bark from one
to four ounces ;

Simple water (or

Spirit and of simple water, of
each from one to two pints,

or

Wine)

Wine) two to four pints or
pounds :

Boil in a close vessel ten minutes,
and strain the decoction for a fo-
mentation.

XXXII. Take of Powder of bark from four
to sixteen ounces ;

Simple water, from two to eight
gallons :

Boil (as in No. XXXI.) and strain off
the decoction for a bath.

To which may be added either

Wine, from one to four pints (or
pounds) ; or

Spirit, from half a pint to two
pints :

Mix them.

XXXIII. Take Tincture of opium,

Hoffman's anodyne liquor,

Volatile aromatic spirit, of each
from five to fifty drops ;

Tincture of cinnamon, from four to
twelve drachms ; or

The draught (No. XXI.), or
The mixture (No. XXII.), from
half an ounce to two ounces :
Make a draught.

XXXIV. Take Mixture (No. XVI.), or
Infusion (No. XVII.), or
Decoction (No. XVIII.),
And impregnate twice, thrice, or
four times with fixible air ; and
let it be preserved in small bottles,
well corked, and laid on their
sides.—The dose from half an
ounce to two ounces.

XXXV. Take of Powder of Peruvian bark
two ounces ;

Wine twenty-four ounces :

Make a mixture, and impregnate it
with fixible air, and preserve it
(as No. XXXIV.) ; and the dose
the same.

XXXVI. Take of The infusion (No. XVII.)
from three drachms to two
drachms ;

Paregoric

Paregoric elixir, from ten to
eighty drops ;

Tincture of cantliarides, from
five to thirty-five drops ;

Syrup of marshmallows, two
drachms :

Make a draught ; to which add
occasionally,

Soluble tartar, from ten grains to
three drachms.

XXXVII. Take of The mixture (No. XVI.)
from three drachms to two
ounces ;

Elixir of aloes, from half an
ounce to an ounce ; (and occa-
sionally

Ley of soap from three to thirty
drops) ;

Nutmeg water, one drachm :

Make a draught.

XXXVIII. Take of The electuary (No.
XIX.) a small spoonful ;

Socotrine aloes, from five grains

to half a drachm ;

Calomel, one grain :

Make a bolus.

XXXIX. Take of The decoction (No. XVIII.)

from half an ounce to two
ounces ;

Powder of alum, from five to
twenty grains ;

Infusion (or tincture) of roses, as
much as will make it grate-
ful :

For a draught.

HYOSCIAMUS.

I HAVE prepared at Apothecaries' Hall, a tincture and a powder of this plant, which are kept as officinals for the use of the Dispensary of this Hospital. Both of which are made after the same manner as the tincture and powder of the hard opium. Only that, to make the tincture of hyosciamus, as nearly of the same strength as the tincture of opium, as I possibly could, I ordered twice as much of the powder of hyosciamus as is ordered of the hard opium, to the same quantity of spirit.

The deficiencies in the preceding Formulæ, will be supplied in the Formulæ of this Hospital, that is intended to be annexed to the Fourth Volume.

DIRECTIONS

FOR

ADMINISTERING PERUVIAN BARK,

IN A FERMENTING STATE,

IN FEVER AND OTHER DISEASES,

&c. &c.

DIRECTIONS,

&c.

IN the treatment of fever, and other diseases wherein Peruvian bark is proper, a method that would enable the stomach to retain it, and render it grateful to the palate, when the usual formulæ are rejected and nauseated, as often happens, to the great disadvantage of the sick, and disappointment of the practitioner, has long been a desideratum in medical practice.

Having often reflected on the subject, it occurred to me that by giving bark in a fermenting state I might probably attain the desideratum, and by that means save much time to the sick, as well as the bark which is wasted in the untoward cases alluded to, when administered in the usual formulæ.

I therefore, in Autumn 1796, made the following experiments ;

I.

I dissolved, in a gallon of boiling hot decoction of bark, two pounds of treacle* ; and, before it was cold, I added thereto a pint of barm, which after being well agitated in the mixture, soon occasioned a very brisk fermentation.

The bark, in this fermenting state, was administered in a dose of one spoonful every hour, to a fever patient, who nauseated the usual formulæ of the bark ; and ever since, according to circumstances, both as to the quantity and frequency of the dose, it has been administered to fever patients in this Hospital, with a degree of success beyond expectation, in staying on the stomach, in pleasing the palate, and in the speedy recovery of the sick. Sometimes it has been made use of as a vehicle for other medicines, but generally alone.

II.

Afterwards I dissolved, in a gallon of the decoction of bark, two pounds of brown sugar*, and,

* Half this quantity of treacle, and a sixteenth part of this quantity of barm, if it is good, will be sufficient, I find by experience.

* Half this quantity may suffice.

upon

upon adding a little barm to the mixture, a violent fermentation ensued.

III.

I next dissolved, in a quart of the boiling hot decoction of bark, four ounces of honey, which with a little barm added thereto, fermented very briskly.

IV.

I boiled a gallon of sweet wort (the first run for making our Hospital beer) half an hour, into which, while boiling, I put pulv. cort. Peruv. two ounces, and continued the decoction ten minutes in a close vessel; and to the decoction, before it was cold, I added a little barm, which brought on a very brisk fermentation. All these four preparations, to my palate, were very agreeable,

V.

In a quart of the boiling hot decoction of bark I dissolved succ. liquorit. four ounces, and, before the mixture was cold, added a little barm to it, which fermented faintly; though, from first to last, three times more barm, in proportion to the quantity of decoction, was added, than in any of the three last experiments: but the taste of the bark was entirely concealed in this preparation, which was too luscious for my palate.

Although

Although I have not made trials, in my practice, of all these five preparations of the fermenting bark, there does not appear to me any reason for doubting but their medical properties must be similar: the practitioner therefore, according to exigencies, or his own inclination, may adopt either.

It is further to be observed, that the dose, both as to quantity and frequency, is to be administered, according as the case requires, from one spoonful every half hour to eight or more spoonfuls, at such intervals as the practitioner sees fit, either alone or as a vehicle for other medicines.

VI.

With the barm skimmed off, No. 1. fermented with much less barm than is therein mentioned, very good bread has been baked; I am therefore satisfied, that the facility of thus having fresh barm to bake every day, for the sick on board the fleet, will be a valuable acquisition.

VII.

The decoctions of sarsaparilla, both simple* and compound, fermented, with treacle and barm, and administered either alone or as vehicles for other medicines, have been productive of great benefit

* It does not ferment near so well as the compound, nor this near so briskly as the Peruvian bark decoction.

in this Hospital, in cases of broken down syphilitic habits, and in one very remarkable case of cacochymia, when the usual formulæ were rejected and nauseated.

That essence of malt dissolved in the boiling hot decoction of bark, and the mixture fermented with barm, will be equally pleasant and efficacious as No. 4, there appears no reason to doubt.

VIII. IX. X. XI.

Of the decoctions of snakeroot, gentian, quassia, and cascarilla, in sweet wort, and fermented with a little barm, I have made such ale or beverage as will be found very grateful, and, I dare say, will be much coveted by the sick and convalescents at sea.

That the extracts of the four bitters last named, and of others dissolved with any of the sweets mentioned in No. 1, 2, 3, and 4, or with essence of malt in boiling water, and fermented with a little barm, will make as pleasant ales as their decoctions, may rationally be inferred.

To administer fermented bark in doses from two to eight ounces, according to the discretion of the practitioner, as a preventive from sickness, is an experiment now in process.

After the preceding statement of the experiments, the following direction will, it is presumed, be sufficient

sufficient to guide any medical gentleman in preparing the fermenting bark, when he is inclined to make trial of it, in such cases as have been mentioned, or in any other he thinks proper.

XII.

Take of the decoction of Peruvian bark eight pounds, or one gallon ; of treacle or brown sugar from one pound to two pounds ; and of barm one or more spoonfuls, according to its goodness, i. e. freshness. Dissolve the treacle, or brown sugar, in the boiling hot decoction, and before the mixture is cold add a little of it to the barm, and cover it up until it ferments ; then gradually add the remainder of the mixture, and, as soon as it is all in a fermenting state, administer it to the sick.

After the fermentation has gone on briskly for some time, before it begins to fall, the barm may be skimmed off for baking, and what is not wanted immediately for baking should be kept carefully for next brewing. I prefer the barm of No. I or II. for baking ; and should the bark of these two preparations be thought too sweet, more of the decoction of bark may be added to the fermenting bark, until they are reduced to a palatable sweetness.

Additional Directions.

If it is intended the fermenting bark shall not contain any of the powder floating in it, the decoction should be allowed time to depurate by standing, and afterwards be poured through a piece of flannel, or bunting, before the sweet and barm are mixed with it for fermentation.

Many other, besides febrile cases, occur in practice, in which the fermenting bark, either alone or as a vehicle for other medicines, may be made trial of; but, more especially, I would recommend the trial to be made in such cases as the usual formulæ of bark do not succeed in, for the reasons before mentioned.

Upon the same principle the fermenting decoctions of sarsaparilla, either alone or as vehicles, are recommended to be made trial of in cases of syphilis, especially when the constitution has been broken down by the patient's own neglect, or any mismanagement.

It is requested of the gentlemen who make trials of the fermenting bark, or other fermenting medicines, to state the cases in which they make them, and, with the result thereof, also to state their own observations and opinions concerning the medicines, in their returns to the Commissioners for Sick and Wounded Seamen.

It

It will be proper to carry some dried barm or thick barm in a bottle to sea, to make the first fermenting bark; or it may be made by adding some treacle, dissolved in a little hot water, to the thick grounds of small-beer, or to a little fresh bottled ale or porter, and the mixture kept warm until it ferments.

Little tubs and kegs necessary for brewing the fermenting bark, and baking the bread, may easily be made on board ship, by the captain's permission, when it is found proper.

R. ROBERTSON.

*Royal Hospital, Greenwich,
2th October, 1799.*

Dr.



A T T E M P T S

TO BENEFIT THE

NAVAL MEDICAL DEPARTMENT.



DR. ROBERTSON'S LETTER TO A FRIEND,

STATING

THE SEVERAL ATTEMPTS HE MADE TO PROMOTE
THE PUBLIC BENEFIT; AND MORE PARTICULARLY
THE INTEREST AND HONOUR OF HIS
MAJESTY'S NAVY; BY SHOWING THE PROMOTION
OF THE NAVAL MEDICAL DEPARTMENT TO AN
EQUALITY WITH THAT OF THE ARMY, IS AN
OBJECT OF POLITICAL CONCERN.

A LETTER,

ſ.c.

THERE are few tasks more ungrateful than for persons of modesty to speak their own praises. In some cases, however, this must be done for the general good, and a generous spirit will on such occasions assert its merit, and vindicate itself with becoming warmth.

RAMBLER, No. 30.

MY DEAR SIR,

IT will no doubt give you pleasure to know that, after repeated endeavours, I have at last been successfully *instrumental* in paving the way for the Naval Medical Department being placed on an equal footing with that of the Army, as nearly as the nature of the two services will admit.

How highly necessary it was for the honour of the Navy, as well as for the benefit of the empire at large, that this establishment should take place—no per-

son is better informed than you are. I will not, therefore, trespass on your time by stating that necessity which was so well known to you.

I shall, however, in compliance with your request, without further preface, acquaint you with the different methods in which I have been employed to attain that desirable and important object.

In doing this, you must excuse my carrying you back to the month of April 1770, when I made my first attempt, in the following manner :

“ On board the *Æolus* at Portsmouth, April 1770.

“ SIR,

“ As you are to be chairman on Wednesday, I desire the favour of you either to read yourself, or to cause to be read, to the surgeons who happen to be present at the club, the following letter from,

“ Sir, your most obedient

“ Humble Servant,

“ R. ROBERTSON.”

“ To Mr. Parker, Surgeon of His Majesty's ship *Superb*, Chairman of the Surgeons' Club, Portsmouth Common.”

“ GEN.”

‘GENTLEMEN,

“HAVING sent a copy of my journal of the fever which happened on board the Weazle, during her last voyage on the Coast of Africa, to Dr. Hoffack, wherein I informed him not only of the happy and certain effect of bark in curing that fever, as long as the quantity which I had lasted, and the fatal consequence of my not having a much greater quantity of that valuable medicine with me, though I had three times more than was sent me from Apothecaries’ Hall ; but that the indigent establishment of the surgeons would not permit them to purchase that expensive medicine, in such quantities as it is daily required in foreign climates ; and, therefore, requesting he would use his interest to get it supplied to his Majesty’s ships employed on foreign service, *at the Government’s expence* ; and being seconded in this request by Dr. Lind, to whom I communicated my design—Dr. Hoffack was pleased to send me the following answer :—‘ My endeavour shall not be wanting to obtain so necessary and beneficial a request. I have written my thoughts on that matter to Dr. Lind, which, perhaps, you will see.’ And I have transcribed

them here from his letter to Dr. Lind, which he was so good as to favour me with for that purpose.

‘ The only method,’ says he, ‘ I can think of, in order to give Mr. Robertson’s scheme a chance of succeeding, would be, to get a number of surgeons together, and write me a letter, setting forth the great utility of the bark, in the cure of diseases incident to our seamen in hot climates ; that a sufficient quantity, for ships of war in his Majesty’s service ordered on such voyages, becomes very expensive to the surgeons of such ships ; therefore requesting that I might move the Lords Commissioners of the Admiralty to consider of the many valuable advantages it would be productive of, if the surgeons of his Majesty’s ships of war, sent on foreign voyages, were allowed a proper quantity of bark in a certain proportion to the complement of men in each rate, and such proportion to be doubled in the time of war. Some representation like this might probably be attended to, when the same from a single person would certainly be neglected. And am sure,’ continued he, ‘ that a letter from yourself, at the same time, setting forth the necessity

‘ necessity of such an allowance, might tend greatly to the success of such an application.’ On this subject Dr. Lind assured me that he would subjoin his opinion of the necessity of such an allowance of the bark, as strongly as he was able to convey it in words, to any such representation as the surgeons of the navy shall make out.

“ I therefore think it my duty to communicate to the members of this club, as well as to the other surgeons of the navy at this Port, the opinion and resolution of these two gentlemen, to promote, as far as in them lies, a matter that will redound so much to the benefit of his Majesty’s service, as well as to the particular advantage and satisfaction of our department. And I trust these gentlemen’s disinterestedness in the matter is too evident for us to hesitate a moment in putting the design into immediate execution, by drawing up such a representation to Dr. Hoffack, and getting it signed by all the surgeons of the navy in this port.

“ At the end of my journals for passing my accounts, I made the same petition to the Sick and Hurt Board, without any fear of incurring their displeasure, whose business I thought it was, more particularly than Dr. Hoffack’s, to at-

tend to any proposition that was made to them for the good of his Majesty's service, as my design certainly was; but stated that they had not thought proper to honour me with an answer. However, I am still hopeful we will be able to succeed in the matter. And I cannot help observing to you, that this representation will be paving the way for presenting another of the greatest importance to us—I mean respecting half-pay. For, in candidly avowing our inability to purchase medicines from the small income we are allowed; it will appear from thence, that we are still less able to save money with it, to support us when we are put out of employ.

“ I am, Gentlemen,

“ Your most obedient humble servant,

“ R. ROBERTSON.”

“ To all the Surgeons of the Navy present at the Club, or who are now at Portsmouth.”

THIS attempt however failed, by my going very soon after to sea. None of the surgeons then at Portsmouth having thought it an object worthy of their

their attention ; or, perhaps, from their despairing to accomplish it, they did not choose to undertake it.

My next attempt, on board the *Rainbow*, in 1772, 3, and 4, was more successful. It was then, with the assistance of my worthy friend Captain Collingwood, that I succeeded in obtaining, at the expence of Government, a quantity of cinchona and wine, according to the rate of the ship, to be employed afterwards on the coast of Africa, to be administered to the men that might be employed on shore on the ship's duty, to prevent their being affected with fever arising from marsh miasmata, or marsh effluvia. The benefit arising to the service from this institution, which originated in my experiments during the three voyages, as related in my first volume of *Observations*, about to be published, has been happily experienced and acknowledged by the companies of his Majesty's ships ever since employed on that coast, who have diligently attended to them.

In the year following, I mean 1775, I again endeavoured, in vain, to persuade the naval surgeons at Portsmouth, to apply to government for a gratuitous

supply of bark to be granted to all ships employed on foreign service. But they thought it, contrary to my opinion, a greater object* to apply for an increase of the number on the half-pay.

I did not make another attempt until the end of the year 1781, after having been part of three years in North-America on board the Juno; and upwards of twenty months on board the Edgar; both of which ships I fitted out and supplied from time to time with medicines and necessary articles, according as I found them absolutely wanted.

This experiment I attended to with great diligence, without being either profuse or penurious, because from these two ships I intended to form an estimate, particularly from the Edgar, what profit a conscientious man could make *bona fide* as a surgeon of a third-rate, which I thought a fair average ship for the experiment, after being on board of her the time before mentioned.

Having then closed the account, and struck the

* I was always of opinion that nothing effectual could be done for the medical department, unless I could make it out fully to be an object of political necessity. And the event has proved I was perfectly right.

balance, which will be seen in the sequel, I thought I had acquired sufficient *data* to make the indigent establishment of the navy surgeons an object of such magnitude as to render it of sufficient political concern to attract the attention of Government. But although, for this purpose, I stated my *data* correctly, and placed the subject in a political light, in as impressive a manner as I could, and had it put into the hands of the naval members of Administration, no notice was taken of it until 1795-6, during the administration of Lord Spencer.

This, indeed, was the less to be wondered at, as the surgeons themselves, at the club above mentioned, to whose consideration I submitted the pamphlet, and whose assistance I solicited to obtain the approbation of Administration to the plan, would not consent to the spirit of the plan set forth in it, because, they said, if it were adopted, "*the surgeons' mates would be above their business—and, even now, they thought them almost unmanageable.*"—A miserable idea indeed, as I thought, and therefore I resolved to trouble them no further with my own ideas on the subject.

No notice of consequence was taken of it by any
suc-

succeeding Administration, I say, until 1795-6, when dire necessity interposed, and procured attention to repeated complaints concerning the scarcity of professional men entering for the navy.

At this time the First Lord of the Admiralty ordered some such plan as I had formed in 1781, and foretold the necessity of being adopted, to be brought forward; and mine was partly acted upon—not *wholly*, as will appear in the sequel. His Lordship was informed, I believe, that I had formed the plan which was put into his hands; and ordered me personally and verbally to confer with the Comptroller of the Navy on the subject, which I did. One of the surgeons, who was a member of the club at Portsmouth Common, 1781, when I presented the plan, and who then opposed it, was at this time one of the Commissioners of Sick and Wounded*. He and the other professional commissioners, with perhaps other individuals, were ordered, I believe, to propose a plan for improving the establishment of the naval medical department—which at last was accomplished.

How far the plan which I pointed out fourteen years

* He had my plan in his possession, and availed himself of it.

before,

before, as necessary then, was *now* improved or even acted up to, notwithstanding the wonderful difference that had already taken place in the value of money within that time, will be seen by comparing that plan, in the sequel, with the one which was now † adopted, and is so fresh in the memory of every person concerned, that I need not trouble them with it's statement. But as mine, though printed, never was made public, and was in the hands of very few—about fifty copies of it only having been printed, I think it right to reprint the substance of it now, that the gentlemen of the naval medical department may know whence it originated, and how strenuously I have exerted myself for the service of the Empire in general, while I was, at the same time, promoting their *immediate interest*.

† 1796.

AN ABSTRACT
OF A
POLITICAL VIEW
OF
THE INDIGENT ESTABLISHMENT
OF THE
NAVY SURGEONS.

PRINTED IN 1781—1782.

BY ROBERT ROBERTSON, M. D.

SURGEON OF HIS MAJESTY'S SHIP EDGAR.

IN placing the indigent establishment of the Navy Surgeons in a political point of view, it is needless to urge, that absolute necessity rendered such a class of men co-existent with the navy; or that pay and perquisites were established as early for them as for the other classes and seamen of the navy.

Their pay, so far as I know, has undergone no alteration, though some of their perquisites have frequently been altered, since they were first established.

In the reign of Queen Ann, a bounty, or free gift, according to the rate of each ship, was granted by her Majesty to naval surgeons, to enable them

to

to purchase medicines and instruments — hence it was called *Queen Ann's Bounty*.

Lately, *Queen Ann's Bounty* was augmented one-half, in time of war. No other alteration of their perquisites has come within my knowledge, except that

The sum allowed for venereal cures was reduced from thirty to fifteen shillings*. And

Their -pay has likewise been frequently altered. For, the number to whom it was first granted, I understand, was only twenty-five; to twenty-five more it was afterwards granted; and a few years ago, Lord Sandwich being then First Lord Commissioner of the Admiralty, fifty more were put on the half-pay list. So that now there are fifty on half-a-crown, and fifty on two shillings, per diem: and I hear it is in contemplation to augment the half-pay of a certain number of the senior surgeons †.

• Before

* This was taken away altogether in 1795-6, when their establishment was new-modelled.

† Since this pamphlet was finished, 12*l.* a year have been added to *Queen Ann's Bounty*; and twenty-five more surgeons were put on 2*s.* per diem on the half-pay list. — The *Queen Ann's Bounty* for a third-rate is now about 43*l.* 7*s.* a year, in
time

Before I proceed further, it will be proper to give the reader a perfect idea of the establishment on which surgeons are at present in the navy; and for this purpose I make choice of a third rate, whose complement is six hundred men — a ship just launched, and manned from different guard-ships — in every point of view an unexceptionable example, I imagine. But as I intend to communicate a knowledge of things only, it is better, I think, to suppress names. *Now * I am of a different opinion.*

The pay of surgeons is the same in all rates, or ships of war, i. e. five pounds per month consisting of twenty-eight days.

Their perquisites are, twopence per month for every man born on the ship's books for wages†, excepting the commissioned and marine officers‡.—

time of war; and is paid in March, I am told, provided a certificate of a particular form be sent to the Navy Board before Christmas.—If there is any error in this statement, it is not intentional.

* This was the *Edgar*, to which ship the author was appointed in May 1779.

† Now for the whole complement.

‡ For supernumeraries, though invalids, and lent men, born for victuals only, nothing is allowed.

The

The Queen Ann's Bounty which is granted them, as already mentioned—and the fifteen shillings for every venereal cure—these, with a servant at the rate of seventeen shillings and sixpence per month, of which forty shillings are paid yearly to the servant—make the pay, and all the perquisites allowed them: for which, they must

Supply the ship with medicines, instruments, and certain necessaries, according to the rule or custom of the navy. That is to say, they must take medicines, from Apothecaries' Hall, to a certain amount, according to the rate of the ship, and provide themselves with instruments, &c. at their own expence; to ascertain they have done so, they must obtain the captain's certificate, otherwise they can receive neither pay nor perquisites. But it is to be observed that, for the reasons before stated, I did not confine myself to that rule. And

It is a circumstance deserving particular attention, that, were the ship to be paid off a week after the medicines are received on board, it is optional with the Company of Apothecaries, who are merchants, whether they shall take them back,
from

from the surgeon, even as a matter of favour, though they might charge what discount they please; or if they shall leave them entirely on his hands.

The surgeon's expence for medicines, instruments, and certain necessaries, on board his Majesty's ship Edgar, from the 24th of May 1779, to the 11th January 1781, was as follows:

	L.	S.	D.
Medicines from Apothecaries Hall - - - -	64	2	5
Mr. Cowcher, druggist - - - - -	23	14	4
Medicines from different people - - - - -	6	14	0
Acid, fruit, vegetables, &c. - - - - -	7	9	0
Instruments - - - - -	17	0	6
	<hr/>		
	119	0	3

Two other supplies of medicines, &c. which he afterwards had, one in August 1780, and the other in January 1781, and of other necessaries

within that time, amounting to - - - - -	29	15	7½
	<hr/>		
Total expence - - - - -	148	15	10½
	<hr/>		

His bark alone, of which he had 93lb. 12oz. within the period above mentioned, cost 39l. 6s. nearly one-third of the 119l. 0s. 3d. On the 31st July, 1780, however, there remained only about 10lb.

10lb. of the bark. To be exact, he always weighed or saw it weighed out, and he never spared any out of the ship, but to one patient, who had 4oz. During the whole time, the ship may be said to have been on Channel service; as she only went to Gibraltar, where she staid about three months.

The surgeon's pay and perquisites, on board his Majesty's ship *Edgar*, from the 24th of May 1779, to 11th January 1781:

	<i>l.</i>	<i>s.</i>	<i>d.</i>
His pay (fees and agency deducted) - - -	102	10	3
His servant's pay (fees and wages deducted) - -	14	17	1
Twopences (fees and agency deducted) - - -	103	0	6
Free gift (ditto) - - - - -	51	15	7½
Venereal cures, at 1 <i>l.</i> 10 <i>s.</i> per month (ditto) - -	30	9	0
Amounted to - - -	302	12	5½

on the 11th of January, when the balance was struck; but were not all paid for many days after, as appears in the following statements.

But with respect to the surgeon's reimbursements, the precariousness as to the time they were made deserves serious attention.

By a letter from his agents, dated the 11th Jan. 1781, he was informed they had received, and placed to his credit for the ship only, by

	L.	S.	D.
1780, June 29th.—Pay for one year (fees and agency deducted) - - - - -	60	19	0
Sept. 25th. — By twopences, from			
May 24th 1779 to 31st Jan. 1780	26	3	0
By venereal cures from ditto to ditto	18	0	0
	<u>44</u>	3	0
Agency and casting fees - - - - -	1	11	6
	<u>42</u>	11	6
By servant's pay for the same time -	7	7	6
Agency 3s. 6d. and paid the servant			
1l. 6s. 8d. - - - - -	1	10	2
	<u>5</u>	17	4
Total reimbursements - - - - -	109	7	10
Short of his disbursements - - - - -	39	8	0 $\frac{1}{2}$
His total disbursements being - - - - -	<u>148</u>	<u>15</u>	<u>10$\frac{1}{2}$</u>

N. B. His disbursements would have been far greater, had the ship been employed abroad : and he would have received only one year's pay, in that case, and none of the perquisites :

The balance due to him on the ship's books was	193	4	7 $\frac{1}{2}$
But he received only by his agents - - - - -	<u>109</u>	<u>7</u>	<u>10</u>
Total of pay and perquisites - - - - -	<u>302</u>	<u>12</u>	<u>5$\frac{1}{2}$</u>

But

But all his reimbursements fell 39*l.* 8*s.* 0½*d.* short of his disbursements, after having been nearly twenty months in the ship; and if to the deficit expence is added his expences for his mess, clothes, and necessary contingencies on board, and the interest of the whole sum — what balance will remain in his favour? — to say nothing of continual labour of body and mind, of the peril from infection, &c. *What tradesman does not make more money, and enjoy more comfort?*

Notwithstanding it would bear still harder on the surgeons, while they are on their present establishment, it would be highly proper that there should be no discrimination between channel and foreign service, in supplying ships with medicines, particularly in time of war; as ships are often no sooner fitted for the channel service, than provisions and stores for foreign service are unexpectedly hurried on board, and the ships, without the necessary supply of medicines, immediately sent to sea. From exigencies of State, ships have

been and may often be dispatched on foreign service without its being possible for the surgeon to supply himself from the Western Squadron*.

Indeed surgeons might on a very short notice get on board an additional supply of medicines, which they ought to take on board when the orders to fit for foreign service are made known, as the Company of Apothecaries keep, in time of war, an agent at the capital ports †, with a stock of medicines to supply them ; but, from their indigent establishment, now faithfully stated, is it any wonder, if, instead of demanding an additional supply, they should think themselves happy in the prospect of getting out of the reach of Apothecaries' Hall — where they cannot use any means to oblige them to take more medicines — where they will endeavour to make their first supply for channel service last them years, especially if they are not to be purchased abroad under an exorbitant price — and where, perhaps, no hospital is established. Should

* Reasons of State may render it absolutely necessary I say.

† They have at Portsmouth, at least. But they have had none this war.

there be one, happy circumstance for the men, if they become sickly. But to proceed.

The facts which I have now stated, point clearly out, that, from the commencement of the navy, until this period, an adequate provision has not been made for the surgeons, although it may be supposed that they have repeatedly made their indigence known, and prayed relief, with all their energy.

In doing this, however, they have unfortunately dwelt on the *smallness of their income and profits*, instead of representing the fatal consequences arising to the service from their indigence. Had this circumstance, as it ought to have, been their study, they might have easily furnished themselves with many similar cases to the preceding, to demonstrate that it was not in a surgeon's power, while on the present establishment, to do his patients justice, when the ship became sickly, unless he involved himself in debt, particularly when the ship is first put into commission; because then the ship is generally most sickly, and the surgeon

is least able to bear the expence. One can hardly suppose that such a momentous representation, if duly made, would fail to be regarded ; or that an evil of such magnitude required more to get it remedied than to point it fairly out.

To impress the argument, of the dangerous effects of the indigence of naval surgeons, more strongly, I will illustrate the case before me, which will probably throw light on a subject that is either not sufficiently explained by the surgeons or not considered by government of that importance which it really is. In doing this, I shall not dwell on previous circumstances ; *viz.* that the first third part of the lives of medical men must be necessarily spent, to qualify them for their profession—and that numbers of them are obliged, for want of interest, then to serve, in the subordinate situation of mate, *eight* years—but shall suppose, as in fact the case was, that the person in question was a surgeon of more than ten years standing on the list, when appointed to his ship, in time of war ; that, besides a competent knowledge of his profession, he had experience to inform him what medicines would most probably
be

be wanted immediately, or in any climate whereto the ship might have been sent; and humanity to guide him in the discharge of his important duty*, the most amiable of all the qualities he could possess.

* Complaints existed, no doubt, against numbers of naval medical gentlemen, at this time, for their not supplying the ships sufficiently with medicines, &c.—and against the professional knowledge of some of them. But it is more to be wondered at, that professional men, of any qualification, entered at that time into the service.

THE
OUTLINES OF A PLAN
TO REMEDY THE NATIONAL MISCHIEF
ARISING FROM THE
INDIGENT ESTABLISHMENT OF THE
NAVY SURGEONS.

THE better and more effectually to encourage young surgeons who have been liberally educated, and regularly grounded in their profession, to enter into his Majesty's navy, in future, it is enacted by—*

Article I. That the professional vacancies at the Sick and Wounded Board; in hospitals, at home or abroad; in dockyards; in the marine divisions; and in sick quarters; or on board of hospital, prison, ship, or receiving ships; shall be filled up

* Here it is to be understood the proper authority, wherever it is lodged,

from the list of the navy surgeons, and by such of them only as have served their time for half-pay, or five years.

II. Physicians, and Surgeons General to the Fleet, and to Hospitals, &c. shall in like manner be selected from such of the surgeons as, by their service, are entitled to half-pay.—See Articles V. and XIII.

And as further encouragement to such young surgeons to enter in future into his Majesty's navy, the following articles, setting forth at large the establishment on which surgeons of the navy are now placed, are drawn up and ordered to be published.

III. That all persons appointed to examine candidates, to serve as surgeons' mates, or surgeons of the navy, shall be instructed to perform that duty without favour or affection, without partiality, or prejudice for or against the parties to be examined, and shall certify their qualifications accordingly. Nor shall examiners be countenanced in granting certificates, even of the lowest denomination, unless the candidates are qualified accordingly*.

* There was in fact no necessity for this article, except *pro forma*.

IV. Every candidate appearing a second time for examination, shall produce to the examiners a certificate, from the surgeon or surgeons under whom he served since his last examination; which certificate shall express his general conduct, especially respecting his duty, and his professional qualifications as far as they have had opportunities to judge. And the same certificate shall be laid before the physician who examines them touching the physical part, when they come before him to obtain their qualification for surgeons.

V. No person shall be entered on the list of navy surgeons, unless he has served as a mate, or *has acted by order as a surgeon* three years, in actual employ on board the fleet.

VI. The medicines, instruments, and all necessities whatever, for the use of the sick, shall henceforth be supplied to his Majesty's ships and vessels at the expence of his Majesty; and the Physician of Greenwich Hospital shall continue to comptrol the supplies and demands of the surgeons.

VII. The

VII. The surgeons, assisted by their mates, shall keep a just and regular expence of the medicines, instruments, and necessaries: and these expences, with affidavits, if required, of their justness, together with the surgeons' journals, shall be regularly transmitted annually to the Commissioners for Sick and Wounded, otherwise, the pay of both shall be withheld.—See Forms, No. I. and II. hereto subjoined.

VIII. When his Majesty's ships are paid off at the different ports, the medicines, instruments, and necessaries, shall be carefully returned to the persons appointed by the Navy Boards to receive them, who shall take a faithful inventory thereof, before the respective surgeons and mates, and deliver receipts for the same. And all such surgeons shall transmit, with their final accounts, an exact journal of all their expences—a duplicate of the inventory of the remains of medicines, instruments, and necessaries, returned into store, and the store-keeper's receipt—together with their own and their mates' affidavits, as enjoined by the preceding article. In failure of which, they shall forfeit
their

their pay and claim to all future employment or promotion in the service: and likewise become liable to be prosecuted for the same. The mates as well as the surgeons shall therefore have a key on the medicines, instruments, and necessaries, being now equally responsible for the same.

IX. Surgeons' first mates of any of the ships of the line, not under a fourth rate, shall be paid three shillings and sixpence; the first mates of all other rates three shillings; all second mates after the rate of two shillings and sixpence; and all the other mates after the rate of two shillings per diem, annually, whether employed at home or abroad.

X. Surgeons shall have a servant allowed, as formerly.

XI. The perquisites, viz. twopences, Queen Ann's bounty, and for venereal cures, shall henceforth be applied to a fund for defraying the expence of the medicines, instruments, and necessaries*, and for the pay of the surgeons.

* These were not what the Navy Board supply the ships with now—but various articles, that, strictly speaking, were neither expressed by medicines nor instruments.

XII. The pay of the surgeons shall hereafter be regulated as follows :

1, Surgeons employed in any of his majesty's ships of the sixth rate, including floops, yachts, store-ships, or armed ships, shall be paid at the rate of five shillings and sixpence per diem.

2, Surgeons serving on board of fifth rates, shall be paid after the rate of seven shillings and sixpence per diem.

3, Those employed on board of fourth rates, shall be paid eight shillings per diem.

4, When they serve on board of third rates, they shall receive nine shillings and sixpence per diem.

5, They who are employed in second rates, shall be paid ten shillings per diem, and

6, Those who are employed on board of first rates, shall receive after the rate of eleven shillings and sixpence per diem.

7, They shall be paid annually, as soon as their accounts are passed.

XIII. To entitle surgeons to half-pay, they shall fulfil article V. besides serving five years as surgeons in actual employ ; and those who are now on the list, that have not fulfilled the third article, shall

shall not be entitled thereto, until they serve in actual employ so much longer than their five years as will make up the full time enjoined them to serve by the third article, which together, make eight years servitude in actual employ, to entitle them to the following half-pay.

1, The senior thirty-five on the list shall be allowed after the rate of six shillings and sixpence.

2, The next thirty-five after the rate of five shillings and sixpence.

3, The next thirty-five in seniority, five shillings.

4, The thirty-five next in seniority, four shillings and sixpence.

5, The next twenty-five in seniority, after the rate of four shillings.

6, The twenty-five next in seniority, three shillings and sixpence: and all

7, The rest who who have served their time for half-pay, and are unemployed, shall be allowed after the rate of three shillings per diem; which any or all of them shall forfeit, upon refusing to serve when they are called upon.—See Article XXI.

XIV. To entitle surgeons to superannuation, besides their having served agreeably to the first and last part of the preamble of the foregoing article, they shall serve in the following manner :

1, To entitle them to the lowest rate of superannuation, at five shillings per diem, they shall serve eight years in actual employ, as surgeons of his Majesty's navy ; which will be eleven years in all.

2, To obtain six shillings and threepence per diem, the second rate of superannuation, they shall serve ten years in actual employ ; which in all will be thirteen years service.

3, For the highest rate of superannuation—seven shillings and sixpence per diem—they shall serve twelve years in actual employ ; which will be fifteen years service in all. *

4, The persons appointed to examine the sur-

* The author has fixed on the sums for the pay, half-pay, and superannuation, which, *in his opinion*, will fully answer the purposes for which he humbly recommends this new establishment ; and it is for the same reason that he wishes it may be extended to physicians and surgeons of hospitals, in the following manner.

geons

geons applying for superannuation, because of old age, diseases, and infirmities, shall do it after the manner prescribed in Article III. And they shall on no account grant certificates to any but such as they find proper objects, whatever term of years they may have served; nor shall they withhold certificates from those who have served their full time, they being proper objects.

XV. Physicians in actual employ at home or abroad, shall receive at the rate of one pound per diem *; and when they are out of employ, after the rate of ten shillings per diem; which they shall forfeit if they refuse to serve when called upon.

XVI. Surgeons of hospitals, at home or abroad, in actual employ, shall be paid at the rate of fifteen shillings per diem, provided they are not paid as surgeons of ships, while they did duty as surgeons of hospitals; and when they are out of employ, at the rate of ten shillings and sixpence per diem,

* Unless their pay be genteel, they must court private practice; and what the consequence may be of their leaving the hospitals, to follow it, are sufficiently evident.

which

which they shall forfeit, should they refuse to serve again. Further, if they quit their employments abroad, without having such reasons for doing so, as shall be satisfactory to the Lords Commissioners of the Admiralty, and Commissioners for the Sick and Wounded, shall be liable to be dismissed from the service.

XVIII. The superannuation of physicians shall be at the rate of fifteen shillings per diem ; and the superannuation of surgeons of hospitals, after the rate of ten shillings per diem. But neither physicians nor surgeons of hospitals, unless infirmities, or very particular circumstances of bad health should render it absolutely requisite, shall be superannuated until they are sixty years of age at least.

XIX. No physician, surgeon, or surgeon's mate, shall hold two employments in the navy at one time, as before mentioned in the preliminary to those articles, if there be any possibility to prevent it. And in case it cannot, the person or persons so employed, shall be paid after the rate of the highest salary of the two employments ; and it shall solely rest with

the Sick and Wounded Board, to make such compensation to him or them, as they think just, for their having done the duty of the other employment ; nor shall employment in hospitals, or in any other way than in actual service on board of ships, be reckoned as part of the time of the surgeons of the navy.

XX. Surgeons who were superannuated before the adoption of this plan are not to derive any benefit therefrom.

XXI. Surgeons enjoying half-pay shall, in time of war, serve whenever they are summoned by the Commissioners of the Navy ; and in time of peace by roaster, faithfully kept at the Navy-office, without regard to any interest whatever. And any surgeon refusing to serve when duly summoned, either in war or peace, shall immediately forfeit his half-pay, and be dismissed from the service if it is war ; and likewise in peace, unless they find a surgeon on the list to serve in his stead ; and unless in cases of real sickness or accidents ; of which they shall transmit, as soon as possible, or cause to be

be transmitted to the Commissioners of the Navy, affidavits, stating their respective cases; and they shall likewise inform the Commissioners when they recover, that they are ready to serve, and to bring up their tours of duty, on pain of forfeiting their half-pay if they herein fail.—But such surgeons as are summoned to serve in peace or war, being on half-pay, shall not, unless by choice, be employed in ships or vessels, yachts excepted, commanded by masters and commanders; and a tour of duty on channel service shall not exceed two years, unless they choose.

Forms of the Oaths.

No. I. This deponent voluntarily maketh oath, that the preceding annual expence of the medicines, &c. on board his Majesty's ship from to is faithful and just; and that no part whatever thereof was embezzled, or in anywise misapplied, to the best of my knowledge and belief.

II. This deponent voluntarily maketh oath, that the preceding invoice of medicines, instruments, &c. as delivered into his Majesty's store, at this port, fully and faithfully expresses the remains of all that were received on board of his Majesty's ship the from to the date hereof, inclusive of the time that I have been surgeon (or surgeon's mate) of the said ship; and that no part whatsoever thereof hath ever been embezzled or in anywise misapplied; but that they have been faithfully used and expended for the use of the sick and hurt belonging to the said ship, and to prevent sickness on board of the said ship, to the best of his knowledge and belief.

III. This deponent voluntarily makes oath, that he served as a surgeon of his Majesty's navy, when called upon so to do, at the beginning of the present war, and hath continued to serve; that he hath neither by interest, or any other collusive means whatsoever, refused to serve at any time when he was called upon; and that he is willing to serve whenever he shall be summoned by the Commissioners of the Navy for that purpose, either during
a war

a war, or in time of peace, by roaster—on channel or foreign service—unless in such cases as are before excepted. See Art. XIX.

The author is aware that objections may be raised against many of the articles of the preceding plan ; but he submits it as a matter of serious consideration to those before whom it is laid, with all deference ; whether the inexpressible advantages that, obviously, would redound to the service by adopting *some such plan*, will not far outweigh all the objections which can possibly be made against it.—While they deliberate to determine for or against *either*, he begs leave to remind them that private interest and convenience, farther than they become involved by securing both the present and future service of able and experienced surgeons to Government, are entirely out of the question ;—that, in the one scale therefore, they are only to view a very few thousand pounds a-year expence, poised against the bulwark of the empire—the preservation of the healths and lives of thousands of seamen, in peace as well as in war, who by

the present indigent establishment of the navy surgeons, are demonstrably lost !

I HAVE copied here almost literally the outlines of the plan which I framed in 1781-2, and printed without my name, as it was intended only to benefit the service by furnishing Administration with hints to form a plan by—after showing them the political necessity there was at that time for improving the indigent establishment of the navy-surgeons.

THE plan as now arranged, under the sanction of Lord Spencer, was immediately entered upon. A plan, considered in the aggregate, much less favourable to the Naval Medical Department than the one I had framed fourteen years before, as they, who have the original printed copy in their possession, can see by comparing them. But although it was, with all its deficiencies, very inferior, I say, to the plan I proposed so long before, it was certainly a great improvement on the old establishment. An improvement, however, by no means adequate

to the circumstances of the times; the advance on the prices of every article of life; and also on every branch of education, especially those branches which were necessary for instructing and qualifying youth for the medical profession; or the depreciation of money; nor to the great encouragement, soon after this, held out in the army, “To induce well-educated persons to enter into and continue in that service,” which was again greatly augmented and confirmed by an order of the King in council, 23d May 1804—all these concurred to render Lord Spencer’s medical arrangement* inadequate to the purposes for which it was intended.

My public situation having furnished me with frequent opportunities of *observing*, to my great mortification, the happy effects which this new encouragement was productive of in the army—by encouraging young professional well-educated gen-

* I firmly believe had the plan I proposed 1781-2, or even a more liberal one, better calculated for 1796, been represented to his Lordship by all parties consulted on the business, as absolutely necessary for the good of the service, that his Lordship would have readily adopted it—so well disposed his Lordship appeared to be to promote the service.

tle men to enter into it, whilst hardly any were offering for the navy, which, I well knew was owing entirely to the great disparity of encouragement held out in both services—I at length, after considering and reconsidering, with great uneasiness and vexation to myself, saw the absolute necessity there was for some strong measure being immediately adopted, to encourage young well-educated gentlemen of the profession to enter and to continue in the navy. With this view, therefore, I determined to form a plan for that purpose as like to the new regulations lately ordered, by the King in council, for the army, as the difference between the two services would admit. And this plan I adopted, not only because I judged it would prove most efficient, but because by that means I should avoid all competition and comparison with the officers of the navy, and not incur their resentment, or opposition. But I expected to rouse their pride in my favour by endeavouring to place a seamen on an equal footing with a soldier, in procuring for them medical help at all times as able and respectable as soldiers enjoy—which could only be effected by giving to the professional men of both services

equal

equal encouragement—without interfering with the military in either service. And I am happy to say, that I succeeded in this plan to my wish.

But reflecting at the same time on the importance of the task I was about to undertake ; and that although the plan I intended to bring forward was in itself not only proper, but absolutely necessary to be carried immediately into effect, I thought it would be giving it more weight to admit another person to act in conjunction with me : for these reasons I fixed my eye upon Dr. Harness, as a very fit gentleman for the purpose, not merely from his public situation, but also from the favourable opinion I had of him towards the cause.

I therefore conversed with him several times on the subject, in perfect confidence that we should act in the business and deliver the plan to Lord Melville *together*, in the manner I repeatedly mentioned to him ; because if any difficulty or demur should arise from the plan, in his Lordship's mind, I wished to answer him or to explain it personally. But before I got my plan quite ready, being then occupied in correcting the work * I had in my printer's hands, I was solicited by Dr. Harness several times for a sight of

* All my observations are reprinting.

my plan, which I at length showed him ; and which, he said, “ he thought would not be conceded, because it was asking a great deal too much ; and because he thought it would provoke opposition from the Naval Military Departments.”

To which I replied in the following manner : I reminded him, that I had not entered into competition or comparison with any of the members of the military department, and consequently could not provoke their opposition ; that I had not dwelt on the merits, nor on the indigence of the medical department ; therefore it could neither be considered selfish nor improper. I reminded him of the great scarcity of surgeons' mates, which to his own knowledge existed in the navy ; how few of those gentlemen entered now for the navy, and what the qualifications of the few that now entered were, while many well qualified were daily entering for the army : I reminded him that no person could take upon him to say “ *that a seaman's health ought not to be as well taken care of as a soldier's* ”—which he readily acknowledged. I then asked him by what means was the seamen to be as well taken care of as the foldier was, if it were not by holding out to
the

the well-educated professional youth, on entering into the navy, encouragement equal to what the army holds out? which he also allowed *.

Having fully answered all his objections to the plan, and removed his doubts concerning the propriety of it, I agreed to meet him at the Sick and Wounded Office, when his scheme should be ready; which he was preparing to deliver in with the plan, that we might compare them and carry our object into effect as soon as possible. In the meantime I proposed to shew the draft of my plan to a mutual friend of ours—an old officer of very high rank in the service—who, I thought, might be called upon, while it was under discussion, to give his opinion concerning it. And I had the pleasure to find that he approved of it.

As soon as I received Dr. Harness's invitation to our adjourned meeting at the Sick and Wounded Office I went; and in a room of the Secretary's house we had the plan read over to us by the secretary and his assistant, who were both present *confidentially*. I then

* My aim was always to render my plan a *political object*—well knowing that nothing less would attract the notice of Administration.

asked to see the Doctor's own scheme; and found he had been employing those gentlemen to make out the estimate of the present annual expence of the medical department, to enable them to form the estimate between it and my plan, to present it with the plan. I agreed with the Doctor in the propriety of being ready prepared with the estimate in case it should be called for—but objected to furnishing it until it was called for; which was assented to. The plan was then read over paragraph by paragraph, and some official amendments were made, which are inserted in *italics*, in the annexed copy of the plan *.

It was then agreed that the plan should be fairly transcribed, and that when transcribed I should be made acquainted, that we might have another meeting to reconsider the plan before it was fairly copied, and delivered to Lord Melville; and which

* Any other difference which appears between my plan hereafter inserted, and the one now ordered by the King and Council, was introduced at the Boards—but the differences are not material—except in omitting my last proposition, which, had it been adopted, would only have placed the navy on a nearer footing with the army medical department.

meeting, I expected, would have taken place in a few days.

But Dr. Harnefs, some considerable time after, when I unexpectedly met him at our friend's, told me, that he had sent the plan to Lord Melville—because he had been called upon by his Lordship for a plan immediately, and that he, therefore, had no time to communicate with me further concerning it. At the same time he showed me the draft of a letter which, he said, he sent with the plan.

The draft of the Doctor's letter contained a statement of the difficulties, hardships, and penury, the professional gentlemen of the navy had to contend with ; of the great want of them in the service ; and of the absolute necessity there was for encouraging them to enter and continue in the service.

The benefit of the service, at the time, and always was, with me, paramount to every other consideration. Whatever my thoughts were, I at the time felt contented with my plan having gone forward.

But on consideration of what had already passed concerning this business, I thought it highly proper

to

to do myself the justice to write to his Lordship myself on the subject, acquainting him that I drew up the plan which Dr. Harnes had transmitted to him, with the army regulation, and to strengthen the plan with some additional suggestions which had occurred to me* — and this I accordingly did — though contrary to the idea of *our friend*, that it was necessary, for reasons never explained to him.

On March the 4th, I received some of the printed extracts before-mentioned from Dr. Harnes, that were sent about long before to give the new arrangement publicity.

I have now laid before you, my Dear Sir, the history of all my attempts to serve the medical department, whence the plan of the new arrangement of the naval medical department has originated, and shall therefore conclude this historical epistle by subjoining my plan in the rough *draft* I submitted it in the manner above-mentioned, not expecting

* I have good reason to think that letter was well received by his Lordship.

it was to meet the public eye before I had time to correct it. The alterations or additions which were made in it by the secretaries, at our meeting in the Sick and Wounded Office, are inserted, as I said before, in *italics*.

THE DRAFT OF THE PLAN FOR INCREASING
THE ADVANTAGES AND IMPROVING THE
SITUATION OF THE MEDICAL OFFICERS
OF THE NAVY;

WHICH WAS PROPOSED

BY DR. ROBERTSON,

AND

*Transmitted to Viscount MELVILLE, First Lord Commissioner of
the Admiralty, (with the Alterations in Italics by the Secre-
tary at the Sick and Wounded Board) by DR. HARNESS.*

PRELIMINARY DISCOURSE.

WHEN a plan of great improvement or innovation, in any department of the public service, is proposed, it becomes necessary to show the absolute necessity to adopt such a plan; especially when it is probable that expence will attend it.

To show the absolute necessity of adopting such a plan as the following, I need only to mention—That not one-half of the surgeons' mates, that are positively wanted for his Majesty's ships and vessels,

can be found to supply them, or to enter into the navy.

That many of the naval surgeons of abilities leave the service, and enter into the army medical employ; or very soon retire on shore. And the reason is

The great encouragement held out to medical gentlemen of abilities to enter into the army—and the want of sufficient encouragement to induce medical gentlemen of abilities to continue in the naval service.

The want of sufficient encouragement for this purpose, certainly is neither known to the King, nor the Legislature, nor to your Lordships;—otherwise, no doubt can be entertained but it would be immediately remedied. But the cause of this want of medical gentlemen in the navy is not confined to the difference between the full pay and the half pay of the army, and the full pay and the half pay of the navy, alone.

The rank wisely granted to the medical department of the army is not only *the principal induce-*

ment

ment with young medical gentlemen for giving that service the preference, at first ; but it becomes *their principal inducement* for continuing in that service.

The rank, I say, wisely conferred on the medical gentlemen of the army confers no power to command ; it confers the respect due to that rank only, and, perhaps occasionally, some little advantage. Consequently, was similar rank to be granted to the medical gentlemen of the navy, it would not confer on them the power to interfere with the command of the ship or ship's company, nor would it alter their situation in the ship, as to their apartments or prize-money ; but would confer on them the same respect as the medical gentlemen of the army have conferred on them.

Why the medical gentlemen of the navy should not be placed, in every respect, upon a footing with those of the army, I am of opinion that the greatest bigot to the customs in either service cannot adduce one good reason. Provided, therefore, care is taken in future, that medical gentlemen shall not be admitted into the one service, that are not qualified to serve in the other, in the same rank, no reason-

able objection can be made against the plan.—
And

If it is alleged, that at present there are in the navy, medical gentlemen unworthy of such rank, and of such full pay and half pay, as the plan proposes — I would answer the objection by declaring *this* to be the very reason or plea which I would urge most strongly for the necessity to adopt the proposed plan — as this would gradually cure the evil, and prevent it from happening in future.

PROPOSED
REGULATIONS OR IMPROVEMENT
OF THE
NAVAL MEDICAL DEPARTMENT,
FOR THE
PURPOSE OF IMPROVING THE SITUATION
OF THE
MEDICAL OFFICERS OF THE NAVY,
AUGUST 1804.

THAT it shall be a peremptory instruction to the Court of Examiners of the College of Surgeons,

That, *bona fide*, there shall no longer be kept up by the Court, in their examination of mates for the navy, and mates for the army, any distinction whatever, but that their examination of gentlemen for both services being equally strict, the Court shall not certify that any gentleman is qualified to serve as a mate, as an hospital assistant, or as a surgeon in the navy—that is not in their opinion equally qualified to serve in the same situation in the army—and *vice versa*—

Because, henceforth it is intended,

That there shall be no mate, or mates, or assistants admitted into the navy, who are not qualified to serve as a first mate of any rate; (I suggested therefore, *verbally*, at the meeting, and I see it is literally adopted) That the old plan of qualifying mates by examination down to the sixth mate should cease—and that they should be all equally qualified for assistants or first mates, who are to be admitted into the service—and that their difference on board ship should take place only as with lieutenants according to their first warrants, in future. And further, I proposed the following regulation, as to number of the assistants to be employed on board of the different rates in future—on board of first and second rates, three assistants only—on board of third and fourth rates, two assistants only; and on board of all other rates, one assistant only—intending that the deficiency in numbers, according to the old establishment, should be amply compensated by the efficiency of the few now to be employed.

Hospital ships to be allowed three assistants.

BY THE KING IN COUNCIL,
&c. &c. &c.

WHEREAS we have approved of an arrangement for encreasing the advantages, and improving the situation of the Medical Officers of the Navy; with the view of encouraging able and well-educated persons to enter into and continue in that line of the service, Our will and pleasure is,

I.

That Hospital Mates shall have the full pay of six shillings and sixpence a-day nett, when employed at home; and of seven shillings and sixpence a day nett, while employed on foreign stations, with half-pay, on reduction, at the rate of two shillings a day; and *further, they are to be allowed Lodging-money at the rate of ten shillings and sixpence per week, when not accommodated within the Hospital.*

The second paragraph in the printed particulars, relating to Hospitals, has been added by the Board.

II.

The widows of such as shall have served as hospital mates abroad, and shall die on full pay, shall be allowed the pension of sixteen pounds a year. The children of such hospital mates * *to be allowed such pensions as their Lordships, from a consideration of the circumstances of their case, shall think fit to grant*; and the widows and children of those who shall die on half-pay shall be eligible to such allowances * *as their Lordships shall think fit to grant.*

III.

Hospital mates appointed for temporary and local service, shall not receive more than six shillings a day, while they are employed.

No distinction to be made between the mates, whether employed in the dispensary or under the surgeon, at home or abroad.

IV.

Assistant surgeons, or surgeons' mates of the navy, without distinction, shall receive six shillings

* I left blanks here, out of delicacy.

and sixpence a day, besides the ship's provisions—with half-pay, when reduced, at the rate of three shillings a day, after having actually served three years.

V.

All surgeons of the navy who may not have served as mates and surgeons six years; the dispensers of hospitals at home or abroad; the surgeons employed on board of slop-ships; or receiving ships; or prison ships; shall receive ten shillings a day full-pay, and five shillings a day half-pay—or such other rate of half-pay as the length of their service may entitle them to.

VI.

The pay of surgeons on actual service in the Channel, or abroad, after having served three years as a mate; and three years as a surgeon; or in the whole six years on actual employment in hospitals, in harbours, or elsewhere *, *bona fide*, shall receive

* By this I meant that no distinction should be made in serving on board ships or in hospitals, by mates or surgeons, in dock-yards, or in the marines, in reckoning their service.

eleven shillings a-day, full-pay, and six shillings a day half-pay.

VII.

After having served ten years in actual employ, including his service of mate for three years, the surgeons full pay shall be augmented to fourteen shillings a day—his half-pay to continue at six shillings a day.

VIII.

Every surgeon of the navy, after twenty years actual service at home or abroad in the whole on full-pay, shall have his pay augmented to eighteen shillings a day net, and shall then have a claim to retire on half-pay of six shillings a-day. But if the cause of his retirement be ill-health, contracted in the service; and shall be certified by the medical department—the rate of his half-pay on retiring after twenty years service, shall be ten shillings a day.

IX.

Every surgeon of the navy after thirty years service in actual employ in the whole, on full-pay shall

shall have the unqualified right on retiring on half-pay at the rate of twenty shillings a-day.

The widows of naval surgeons permitted to retire after twenty years service shall not be precluded from the pension, on account of the retirement of their husbands. *Surgeons of hospitals when not provided with a residence within the hospital to be allowed fifteen shillings per week lodging money.*

In all cases the time served as surgeons, or assistant surgeons, or mates, in hospitals, shall be considered as so much time served on board ship.*

X.

The surgeons of naval hospitals, or of hospital ships, actually employed at home or abroad; the surgeons of dock-yards, and of marines from completing the respective terms of twenty and thirty years service, shall derive the same advantages as surgeons on full-pay in actual employment, as above specified.

* Both this explanation and the one marked X which follow, only illustrate the meaning of VI.

X.

No person shall be appointed physician to a fleet or naval hospital who shall not have served five years as a surgeon ; and the full pay of a physician who shall have so served, shall be one guinea a day, and his half-pay half a guinea a day—whether he is employed in the fleet ; or in an hospital.

A physician's daily pay, after having served three years as physician to the fleet, or in an hospital—in actual employ, shall be one guinea and an half—and his half-pay fifteen shillings a day.

The full-pay of a physician, who has served in actual employment *as such*, in a fleet or in an hospital, more than ten years, shall be two guineas a day ; and his half-pay one guinea a day. ✓

The full pay of a physician who shall have served, *bona fide*, thirty years in the fleet or naval hospitals, shall be three guineas a day, and his half-pay two guineas a day—of which thirty years ser-

vice,

vice, not more than five of surgeons service shall be allowed *.

Physicians, when a residence is not provided for them, are to be allowed one guinea per week lodging money.

The widows of physicians and surgeons to be allowed such pensions as their Lordships shall think right, in proportion to their husband's service.

All the perquisites which the naval surgeons now enjoy ; and also the pay and provisions of the fourth, fifth, and sixth mates, will necessarily be applied towards defraying the expence of the preceding plan, and of the medicines, which will be entirely supplied by government.

† Surgeons' mates of hospitals, and surgeons' assistants of the navy, to take rank according to the date of their first appointments, in the same manner

* This head has been left out in the copy Dr. Harness gave in: this rate of three guineas full-pay, and two guineas half-pay—But, greatly as it sounds, it would not place the navy on a footing with the army medical department, there being a retired member of the latter at present on *three guineas a day*.

† I suggested the following regulation verbally at the meeting.

as lieutenants do—that is to say, they will stand by their warrants on the ships' books, first, second, and third assistants, according to the date of their first standing on the list at the Sick and Wounded Office.

None of the officers before described, who shall retire from their employment, without the approbation of the Medical Board, shall be allowed to receive any half-pay.

I have now, my Dear Sir, complied with your request, which I should not have been prevailed on to do, had I not been importuned by a number of my friends, to acquaint the medical officers of the navy with the active part I have taken to promote the benefit of the empire at large ; and with the individual advantage of those officers ; the honour of the navy—in having the medical officers employed in it placed on an equal footing with those of the army : a proposition so rational, and so truly political, that no thinking man will deny,

I am, my DEAR SIR,

Your faithful, humble Servant,

R. ROBERTSON.

Royal Hospital, Greenwich, 9th April, 1805.



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 *The Fourth Volume, containing Remarks on the Diseases to which Seamen are liable, when retired from active employment, by reason of wounds, age, and other infirmities, to the Royal Asylum of Greenwich, will be published without delay.*







